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WARTIME INCIDENCE OF AND MORTALITY FROM RESPIRATORY TUBERCULOSIS

BY

PERCY STOCKS, M.D., D.P.H.

(General Register Office)

AND

E. LEWIS-FANING, B.Sc.Econ., Ph.D.

(Medical Research Council)

It is now possible to reach certain tentative conclusions about the sources of the increase in deaths from respiratory tuberculosis which occurred in 1940–1, although some years must elapse before statistical data are available to complete the picture. It may indeed transpire that other disturbing factors become so complex that we must remain content with such an incomplete answer as can now be given.

Until recently it was difficult to link together the statistics of notifications and deaths in order to estimate the rate at which new cases of respiratory tuberculosis subsequently proved fatal. One of us (Lewis-Faning, 1943) has now published some data of the durations between notification and death for patients who died of the disease in the County of Middlesex in the periods 1937–9 and 1940–1, by means of which the rates of dying in the immediate pre-war period can be estimated. Another helpful analysis of the survival rates of patients in whom tubercle bacilli were found has been published by B. C. Thompson (1943). In the notes which follow we have endeavoured to draw from the data at present available such conclusions as seem possible about incidence and mortality from respiratory tuberculosis during the first four years of the war. Throughout the discussion the term "notifications" means the formal notifications during life, and excludes the deaths of persons who had not previously been notified and transfers from one area to another.

TABLE I.—*New Cases and Deaths, 1923 to 1943, England and Wales*

Year	No. of Notifications		No. of Deaths of Notified Persons	Ratio of Deaths to New Cases	
				Of Year Preceding	Of Current and 3 Preceding Years‡
1922	55,664		29,600†	0·50	0·492
1923	53,387		28,000†	0·50	0·490
1924	55,040		28,500†	0·52	0·515
1925	56,626		28,250†	0·51	0·512
1926	55,475		26,250†	0·46	0·473
1927	53,389		27,100†	0·49	0·491
1928	52,510		26,000†	0·49	0·479
1929	52,031		27,176	0·52	0·511
1930	49,187		25,769	0·50	0·492
1931	49,506		25,888	0·53	0·513
1932	46,579		24,240	0·49	0·491
1933	44,482		24,349	0·52	0·515
1934	43,034		22,633	0·51	0·496
1935	39,635		21,707	0·50	0·501
1936	39,336		20,779	0·52	0·504
1937	39,630		21,177	0·54	0·527
1938	37,879		19,473	0·49	0·496
1939	34,930		19,793	0·52	0·522
1940 1st half	19,470	36,151	21,480	0·61	0·588
2nd „	16,681				
1941 1st „	20,451	39,499	20,850	0·58	0·565
2nd „	19,048				
1942 1st „	21,002	40,629	18,465	0·47	0·484
2nd „	19,627				
1943 1st „	22,330*	42,500*	18,750*	0·46*	0·470*
2nd „	20,170*				

* Provisional estimates.
† Estimated as 90% of total deaths, the proportion in 1929–33.
‡ ¼ (Current year + twice preceding year + sum of 2nd and 3rd years back).

Table I shows the numbers of notifications and of deaths of notified persons in England and Wales in each year 1923 to 1942, and provisional figures for 1943. The notifications declined continuously from 1925 to 1939, except in two of the "influenza" years, 1931 and 1937. Deaths declined less regularly, interruptions occurring in 1924, 1927, 1929, 1931, 1933, and 1937, when influenza was epidemic. The ratio of deaths to the notifications of the year preceding showed no consistent change between 1922 and 1939, ranging between 0.46 and 0.54. With the ratio based upon a simple weighted summation of the notifications in the current and three preceding years the variation was still smaller (0.473 to 0.527 in the period from 1922 to 1939). It is evident from this that more reliance can be placed on the statistics from 1922 onwards than was the case in the early days of tuberculosis notification, and that they are reasonably consistent with those of deaths. A sudden increase in these ratios occurred in 1940, to 0.61 and 0.59 respectively, followed in 1942 by a fall below the normal range of values, to 0.47 and 0.48, somewhat greater than that which occurred in the years following influenza epidemics. A further fall in the ratios in 1943 is indicated by the provisional figures. It may be that the ratios will not return to the pre-war level owing to the effects of selection for national service on the one hand and radiography on the other in bringing slighter cases into the notification net.

The Middlesex deaths from respiratory tuberculosis in 1937–9 of persons who had been notified at some time and were known to the local authority were found to be distributed according to duration since notification as follows: Less than 1 year, 42%; 1 year but less than 5, 45%; 5 years but less than 10, 10½%; 10 years and over, 2½%. Assuming the 60,443 deaths of notified persons in England and Wales in those years to have had the same proportionate distribution, they can be related to the numbers of notifications from which they were derived if we also make the simplifying assumption that the durations of 10 years and over were all included within the range 10–15 years. The latter assumption cannot introduce an appreciable error owing to the small frequencies after 15 years and the form of the frequency curve. The results of this calculation are shown in Table II.

TABLE II.—*Rates of Dying from Respiratory Tuberculosis after Notification in Four Duration Groups (1937–9 data)*

Years from Notification	Deaths of Notified Persons, 1937–9		No. of Notified Persons from Whom Derived†	Death Rates per 100 Originally Notified	No. Dead of Respiratory Tuberculosis at End of Interval out of 100
	Middlesex*	England and Wales			
0– ..	925	25,402	114,642	22·16	22·2
1– ..	987	27,105	493,227	5·50	44·2
5– ..	234	6,425	736,299	0·87	48·6
10–15 ..	55	1,511	820,068	0·18	49·5
	2,201	60,443			

* Comprises deaths of all patients known to the local authority during life.
† At 0–1 year: ½ (1936) + 1937 + 1938 + ½ (1939).
At 1–5 years: ⅛ (1932 + 1938) + ⅜ (1933 + 1937) + ⅝ (1934 + 1936) + 3 (1935).
At 5–10 years: ⅛ (1927 + 1934) + ⅜ (1928 + 1933) + ⅝ (1929 + 1932) + 3 (1930 + 1931).
At 10–15 years: ⅛ (1922 + 1929) + ⅜ (1923 + 1928) + ⅝ (1924 + 1927) + 3 (1925 + 1926).

Fitting a smooth curve to the numbers of notified persons dead of the disease at the end of 1, 5, 10, and 15 years, the "trial" rates in column 1 of Table III were obtained. These rates were then applied to each year separately, as in Table IV, and the resulting deaths in 1937, 1938, and 1939 were aggregated at the four age groups and compared with the numbers required by the Middlesex proportions. The curve was then slightly adjusted so as to produce the exact aggregates required in 1937–9, the adjusted rates being as shown in columns 2 and 4.

TABLE III.—*Rates of Dying from Respiratory Tuberculosis in Each Year After Notification (1937–9 data)*

Interval After Notification (years)	Estimated No. Dead of the Disease at End of Interval Specified out of 100			No. Expected to Die of the Disease during Each Successive Year out of 100 originally Notified
	England and Wales		Middlesex	England and Wales
	(1) Trial	(2) Adjusted	(3) Adjusted	(4)
0– ..	22·2	22·2	18·5	22·2
1– ..	31·2	31·2	26·5	9·0
2– ..	37·2	37·5	32·1	6·3
3– ..	41·5	41·8	35·9	4·3
4– ..	44·2	44·5	38·3	2·7
5– ..	45·7	46·0	39·8	1·5
6– ..	46·8	47·1	40·9	1·1
7– ..	47·6	47·9	41·7	0·8
8– ..	48·2	48·5	42·3	0·6
9– ..	48·6	48·9	42·7	0·4
10– ..	48·9	49·2	43·0	0·3
11– ..	49·1	49·4	43·2	0·2
12– ..	49·3	49·6	43·4	0·2
13– ..	49·4	49·8	43·5	0·2
14– ..	49·5	49·9	43·6	0·1

The rates indicate that in the pre-war period about 22% of persons with respiratory tuberculosis died of the disease within a year of being notified, 44½% within 5 years, and 49% within 10 years; and that 50% died eventually of the disease. With this may be compared the survival rate of about one-seventh for sputum-positive patients after 10 years as found by Thompson (1943).

As a check on this result the same process was carried out for the County of Middlesex. In 1938–9 deaths of notified persons formed 91% of the total deaths of residents from respiratory tuberculosis, this being the same proportion as in England and Wales; it was assumed, therefore, that in the period 1922–37 the national proportions applied also to the county. Since the county population was growing rapidly in that period the notified persons from whom the deaths in 1937–9 were derived had not all been notified within the county, and it was assumed that the immigrant population had experienced in each year the notification rates of England and Wales less Middlesex. The result of this calculation is shown in column 3 of Table III. As might be expected in this southern county, whose standardized death rates in 1931–5 were only 85% of the national rate at ages 15–35 and 87% at ages 35 and over (Registrar-General, 1935), the rates of dying after notification were consistently lower than for England and Wales by about one-seventh, though the form of the two curves was very similar. Within 5 years 38% died of the disease in Middlesex compared with 44½%; and 43½% died of it eventually instead of 50%. It seems probable from this comparison that local variations in mortality are largely due to fatality differences and not necessarily to differential incidence. If the data were available for similar calculations in Wales, Liverpool, Tyneside, and other areas of high standardized mortality, the resulting fatality rates would no doubt be found to be greater than the national figures, which represent averages for the whole country.

On the assumption that the deaths which occurred in England and Wales in each year 1935 to 1942 were related to the numbers notified in the successive periods mid-1925 to mid-1926, etc., in accordance with the adjusted rates of dying in Table III, the expected deaths would have compared with the numbers of deaths of notified persons actually registered as shown in Table IV. Provisional data are also given for 1943.

The last line but one in the table shows that there was an excess of about 440 deaths in 1937 over the expected number, followed by a deficiency of about 770 in 1938, due in all probability to the earlier deaths of many tuberculous persons brought about by the "influenza" epidemic at the beginning

TABLE IV.—*Estimated Numbers of Deaths of Notified Persons from Respiratory Tuberculosis expected at each Duration and of all Durations, 1935 to 1943, compared with Total Annual Deaths Registered*

Interval After Notification (years)	No. of Deaths (in Hundreds) expected from Pre-war Rates of Dying, in								
	1935	1936	1937	1938	1939	1940	1941	1942	1943
0– ..	91·8	87·4	87·7	86·0	80·8	82·0	82·4	88·9	92·0
1– ..	39·4	37·2	35·4	35·5	34·9	32·8	33·2	33·4	36·0
2– ..	28·7	27·6	26·0	24·8	24·9	24·4	22·9	23·3	23·4
3– ..	20·7	19·6	18·8	17·8	16·9	17·0	16·7	15·7	15·9
4– ..	13·3	13·0	12·3	11·8	11·2	10·6	10·7	10·5	9·8
5– ..	7·6	7·4	7·2	6·8	6·6	6·2	5·9	5·9	5·8
6– ..	5·7	5·6	5·4	5·3	5·0	4·8	4·5	4·3	4·3
7– ..	4·2	4·2	4·0	3·9	3·8	3·6	3·5	3·3	3·2
8– ..	3·3	3·2	3·1	3·0	3·0	2·9	2·7	2·6	2·5
9– ..	2·2	2·2	2·1	2·1	2·0	2·0	1·9	1·8	1·7
10– ..	1·7	1·7	1·6	1·6	1·6	1·5	1·5	1·4	1·4
11– ..	1·1	1·1	1·1	1·1	1·1	1·0	1·1	1·0	1·0
12– ..	1·1	1·1	1·1	1·1	1·1	1·1	1·0	1·0	1·0
13– ..	1·1	1·1	1·1	1·1	1·1	1·1	1·1	1·0	1·0
14– ..	0·6	0·6	0·5	0·5	0·6	0·6	0·5	0·5	0·5
Total deaths expected from notifications..	222·5	213·0	207·4	202·4	194·6	191·6	189·6	194·6	199·5
Actual deaths of notified persons..	217·1	207·8	211·8	194·7	197·9	214·8	208·5	184·6	(187·5)
Excess or deficiency..	−5·4	−5·2	+4·4	−7·7	+3·3	+23·2	+18·9	−10·0	(−12·0)
Deaths of unnotified persons..	21·3	22·4	20·4	18·1	17·5	21·8	27·8	25·2	(26·0)

of 1937. Had there been no war and had notifications continued to fall at the same rate as between 1933–5 and 1937–9, the numbers in successive years 1940 to 1943 would have been 35.0, 33.8, 32.6, and 31.4 thousands instead of the numbers shown in Table I. The resulting deaths would then have been as follows, instead of the expected numbers shown in Table IV:

Interval after Notification	Deaths (in Hundreds) Expected if Downward Trend of Notifications had Continued.			
	1940	1941	1942	1943
0–	77·6	76·4	73·7	71·0
1–	32·8	31·5	31·0	29·9
2–	24·4	22·9	22·0	21·7
3–	17·0	16·7	15·7	15·0
4–	10·6	10·7	10·5	9·8
5–	19·5	18·5	17·9	17·5
10 and over	5·3	5·2	4·9	4·9
Total ..	187·2	181·9	175·7	169·8
Deficiency below deaths expected from actual notifications ..	−4·4	−7·7	−18·9	−29·7

This shows that if the rate of dying from the disease after notification remained unchanged, the extra incidence of respiratory tuberculosis brought about by war conditions must have resulted in about 1,200 deaths in 1940–1, about 1,900 in 1942, and about 3,000 in 1943, a total of 6,000 in excess of the number which would have resulted had the pre-war trend of notifications continued undisturbed. The increased fatality during 1940–1 would not affect this number considerably, since the bulk of the increase in incidence occurred later. While it is probably true that part of the increase in notifications has been merely due to a roping in of people suffering from the disease who would in normal times have escaped notification, there has been no compensating fall in the deaths of unnotified persons during the war, but rather a rise, as shown at the foot of Table IV. The reason for this may be that many immigrants have come into England and Wales from countries where tuberculosis incidence is high, and also that excessive movement of the population from place to place has led to more people escaping notification.

In addition to the 6,000 deaths attributable to excessive wartime incidence of new cases, Table IV shows that an excess of deaths over the numbers expected from the actual notifications occurred in 1940–1 amounting to 4,210, and this was followed by a deficiency in 1942–3 amounting to 2,200. The

only satisfactory explanation of this happening (which was anticipated, since it has been seen before in lesser degree in years with influenza epidemics and cold winters) is that the rate of dying of patients already notified was temporarily enhanced by the hard conditions of 1940–1. By this shortening of the normal survival period at least 2,200 notified patients apparently died of the disease during 1940–1 who under normal conditions would have not died of it until 1942–3. Probably the number was several hundreds greater than this, for tuberculosis deaths in the December quarter of 1943 were considerably increased by the influenza epidemic of November–December, thereby neutralizing part of the deficiency which would otherwise have been apparent for 1943 as a whole. That a considerable temporary increase in the short-term fatality rate did occur in 1940–1 and that it was followed by a compensating fall below the ordinary level in 1942–3 is shown by the last column of Table I. From 0.51 in 1936–9 the ratio increased to 0.59 in 1940 and 0.56 in 1941, falling to 0.48 in 1942 and 0.47 in 1943.

In the work on Middlesex deaths by one of us (Lewis-Faning, 1943) it was found that in 1940–1 1,610 deaths from respiratory tuberculosis of notified persons were distributed according to the interval since notification as follows: 701 under 1 year, 665 after 1 but less than 5 years, and 244 after 5 or more years. If all the deaths of notified persons in England and Wales during 1940–1 were similarly distributed the composition of the excess of 4,210 deaths according to interval since notification must have been as shown below.

	Under 1 Year	1–4 Years	5 Years or more	All Durations
Actual deaths 1940–1 in Middlesex proportions ..	18,430	17,480	6,420	42,330
Expected deaths (Table IV) ..	16,440	16,830	4,850	38,120
Excess over expectation ..	1,990	650	1,570	4,210

These figures are quite consistent with the supposition that some 2,500 patients died in 1940–1 instead of in 1942–3. Table IV shows that there must have been at least 10,000 patients notified less than a year living in 1940–1 who were expected to die in 1942–3, and 1,990 of them might well have died earlier; similarly there must have been at least 7,000 patients notified 1 to 4 years living in the first period who were expected to die in the second, and 650 of them might have died earlier as a result of the severities of 1940–1. This would more than account for the transfer of 2,200 deaths; and the rest of the increase could be explained by breakdown of patients in whom the disease had become quiescent and who in normal conditions would not have died of the disease at all, or not in this country. It is not to be supposed that in the disturbances of 1940–1 the Middlesex proportions were exactly representative of those in the country as a whole and that what happened was precisely as suggested above. The purpose of quoting the Middlesex 1940–1 data is mainly to correct an impression given by the paper in which they were analysed that they seemed inconsistent with the view that any considerable part of the increase in tuberculosis deaths in the early part of the war was attributable to shortening of life of patients who already had the disease. One would hesitate to proceed further than Table III in applying the method of analysis used here to those data, owing to the disturbed state of residence of the population of that county in 1940–1. But this more comprehensive analysis, based as it is on data for the whole country (where the objection does not apply) suggests that about 2,500 of the deaths in 1940–1, or three-quarters of the excess over the 1938–9 total, *were* accounted for by shortened duration.

Summary

In the period 1923–39, despite the rapid fall in the numbers of notifications of and deaths from respiratory tuberculosis, the average expectation, for a person just notified, of eventually dying of the disease remained remarkably constant at approximately one-half in England and Wales as a whole.

Immediately before the war the average expectation of dying within a year of notification was about 22%, and within 5 years about 44%. For Middlesex County the curve showing the rate of dying after notification was similar to that for the country as a whole, but at a lower level—43½% eventually dying of the disease instead of 50%. This lower fatality corresponds with the lower standardized death rates in the county as found for 1931–5.

Had the incidence of new cases continued to decline as in the pre-war period, instead of increasing, some 6,000 fewer deaths would have occurred during 1940–3 under normal conditions.

Owing to a temporary rise in short-term fatality during the severe conditions of 1940–1 some 2,500 notified patients probably died in those years instead of in 1942–3. Another 1,500 notified persons and about 1,000 unnotified persons who in normal circumstances would not have died of the disease at all in this country must have died of respiratory tuberculosis during 1940–1.

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THE RELATION OF DERMATOLOGY TO PSYCHIATRY*

BY

F. F. HELLIER, M.D., F.R.C.P.

Lieut.-Col., R.A.M.C.; Command Dermatologist

The expansion of psychiatry in the Army has provided opportunities for liaison with other branches of medicine such as have never been available before, and, under the controlled and standardized conditions of Army life, the importance of the personality factor in all diseases is being more and more appreciated. It was therefore with great pleasure that I accepted an invitation to present the dermatologist's point of view to a gathering of psychiatrists; nor is this inappropriate, as, embryologically speaking at least, psychiatry is an offspring of dermatology, and a fundamental association persists into adult life.

The Hypersensitive Subject

L. Brocq divided skin conditions into two groups—skin diseases proper and skin reactions. The former usually have a specific aetiological agent which produces a characteristic lesion in anyone affected. Thus the *Spirochaeta pallida* causes the same kind of chancre in any uninfected person, and prolonged exposure to spinning-oil a classical epithelioma. When these lesions are treated adequately the condition is finished with and there is no increased likelihood of a fresh attack. In contradistinction to this, a skin "reaction" depends for its characteristic type on the make-up of the patient and not on the specificity of the external factor. Whealing may be produced in one patient by tinned salmon, in others by getting warm or cold or rubbing the skin, and in another because he is upset psychologically, but most people do not develop wheals at all under normal conditions. Here the personality of the patient is all-important; only if he is made in a special way will he produce a wheal with his characteristic stimulus, otherwise it will have no effect at all. A reaction may be simple, like flushing, or more complicated, like eczema or psoriasis, but all behave in essentially the same way. Thus one patient may develop psoriasis whenever he has a sore throat; another if his skin is injured by a scratch; another whenever he undergoes a period of stress, as instanced by one man I recall whose rash recurred every time he took a medical examination. The eczema patient similarly reacts badly to adverse circumstances. Soon after quitting the protection of the womb and meeting the troubles of the world for the first time, he develops infantile eczema. He may adjust himself to his environment, but the rash is likely to return at puberty, at the menopause, and in old age, or at any other time when things go against him. Just as some people react to stress with indigestion, headache, or asthma, so this patient reacts with an attack of eczema and his fellow patient with psoriasis or urticaria; they do so because they are made that way. It is an old gibe that "it is nice to be a dermatologist, because your patients never die, they never get you up in the night, and they never get better." This latter is only too true in many instances, because you can't cure a man of his own personality.

* Based on a talk given to a meeting of psychiatrists.

Eczema

Are there any indications of such an abnormal constitution apart from the appearance of a rash? Undoubtedly there are, and they are well illustrated in patients with eczema. The hypersensitivity of the skin of eczema patients is only one aspect of a generally hypersensitive make-up. Such patients are above the average intelligence, but admit to being highly strung, over-conscientious, and worriers; they possess terrific drive, and are very active, both mentally and physically. They have a tremulous tongue and bright eyes almost suggesting exophthalmos in marked cases, they move quickly, and when asked to undress do so with great speed, only hampered by the marked tremor of their hands. They have been well described as 100-horse-power engines in 60-horse-power bodies. Even in infancy the picture is typical. The child is obviously intelligent, full of unbounded energy, but rather irritable; a familiar trio in the dermatologist's room is the worn-out, over-anxious mother, the worried short-of-sleep father who is continuously retrieving his restless son and telling him not to scratch, and the child who is the picture of health apart from his scratched face and his resentment at being interfered with. The following description by a psychologist portrays just such a child, though actually it is describing the child with asthma:

> "He has an intelligence much above the average; he is irritable and aggressive, quick to respond; he is over-anxious, insecure, un-selfconfident. As a result of his insecurity he often appears at first sight repressed and submissive, but even then there is generally an air of subdued tension about him, and, given the opportunity for freer and more confident self-expression, he becomes aggressive and domineering. He is, in fact, the type of child who makes more demands upon his parents, particularly his mother, than almost any other. He is an intelligent individual who twists her round his finger, aggressive enough to get his own way and anxious enough to demand her continual attention." (Rogerson, 1943.)

The Problem of Treatment

The recognition of the type of patient is easy, but how can one help him? The application of ointments and *x* rays will literally only touch the surface of the condition; if we are to obtain permanent benefit we must tackle the patient as a whole and consider his personality and environment. The problem may be divided into two parts: the discovery of the immediate factor which caused the present attack, and the wider aspect of the adjustment of the patient's attitude to life and his skin condition. The former is often surprisingly simple; the patient is only too willing to pour forth his troubles to a sympathetic listener, and, helped by a few judicious questions, soon reveals marital or financial worries, a period of strain, or some emotional shock which seems to bear a direct relation to the current attack and which the patient is ready to accept as such. The solution to these problems is often possible, using common sense and a little persuasion. More difficult is the problem of altering the patient's outlook and mode of existence so that he may be protected from stresses and strains which his hypersensitive make-up cannot support. One aims at giving the patient insight into his condition, reassuring him that it can be controlled if he goes about it the right way, and modifying his environment. In many cases this common-sense psychology will succeed; but in others one is faced with a severe anxiety state, and it is sensed that there are hidden stresses in the patient's mind that one has failed to expose. One is often reduced to giving these patients bromide—a confession of failure—and it is in such cases that one turns for help to the trained psychiatrist.

I would here refer to an experiment in rehabilitation which the Army has started and which I have been privileged to supervise. An auxiliary hospital has been set aside for chronic skin cases which have failed to stand up to Army life. The object of the scheme is twofold: first, the men have a set routine of work of at least five hours a day doing domestic work, workshop jobs, gardening, harvesting, etc. This is to keep their minds occupied so that they do not sit and brood all day over their skins. Secondly, they do fairly strenuous work, including P.T., which keeps them physically fit and gives them confidence that their skin will stand up to exercise, even though it may make them sweat; and thus the man returns to his unit unafraid of the consequence, and the shock of the transition from the shielded atmosphere of the hospital to active duties is graduated. I err on the side of risk rather than caution; and let eczema patients bathe and seborrhoeics sweat; for I would rather have a man break down in hospital, if he is going to do so, than when he has got back to his unit. The experiment is only in its infancy, but so far the results seem to justify it.

While discussing eczema I must mention one important symptom—itching. If anyone doubts that itching can be produced purely by psychological factors, he has only to observe a class of students to whom one has demonstrated a head full of lice. It is significant that the word "itch" also means "desire," and that a patient will often say that he has had a "lovely scratch"; such phrases derive from the pleasurable element in scratching, which may weigh heavily against the patient's expressed desire to get better. In severe cases of itching the patient may work himself into a fury of scratching, utterly uncontrollable and increasing until finally he relaxes into an exhausted languor, the whole process clearly justifying the description of an orgasm of scratching, with all that that implies psychologically. Certain sites are peculiarly prone to itch, especially the anus and vulva. Part of the reason for this is that these areas are moist from sweat and soiled with irritating faeces or glycosuria, etc.; once irritation has started in an area the threshold for stimuli is lowered because the patient's attention is concentrated on the part, and this leads to further scratching, which in turn increases the itching. I need not, however, emphasize the psychological significance of these sites and the problems associated with the patient's absorption in them.

Nervous and Emotional Factors

Rosacea is a condition which demonstrates very clearly the importance of nervous factors in the development of skin manifestations. Rosacea has been described as pathological flushing, and any factor which increases the redness of the face may precipitate or aggravate the condition in a predisposed person. Such factors are the excessive intake of alcohol or tea, often with an associated gastritis; the menopause and pelvic disorders; local sepsis in teeth or antra; and exposure to extremes of heat and cold, especially when the latter is combined with wind. One or more of these are usually emphasized in discussions on the cause of rosacea, but the most important factor—the psychological one—is often neglected, though it is obvious that blushing is closely bound up with emotional reaction. Actually, investigation of rosacea patients rarely fails to reveal an abnormal personality. They are usually of the shy retiring type, unwilling to make social contacts, self-conscious, and sensitive about their appearance, so that as the condition progresses they tend to retire more and more into their shells. The commonest type of patient with rosacea in my experience is the unmarried schoolmistress from 35 to 45 years old. Klaber and Wittkower (1939) investigated a series of 50 cases of rosacea and found that "35 of the cases (in contrast to 11 of the control group) described themselves as quiet, reserved, and serious-minded children. They disliked parties, games, and group activities; preferred to play alone, and were fond of reading and thinking. They made few friends. . . . 15 rosacea patients, in contrast to 39 controls, described themselves as lively, sociable, and care-free children. . . . The onset of rosacea was preceded in 13 cases by an acute emotional trauma, serious enough to be regarded as a precipitating factor, and in 20 cases by prolonged emotional stresses." The following case of mine illustrates the importance of the psychological approach:

> Miss A. (35), a schoolmistress, is one of four sisters. The other three are married, but she had to break off her engagement in order to look after her father and mother. She lived with her parents in a large old house which was very inconvenient to run, but her father refused to leave it; Miss A. had to do all the housework when she returned home from school in the evenings. Her sisters traded on her self-sacrifice—particularly one, a first-class hysteric, who periodically came home and went to bed for a week. Miss A. has gradually had to abandon all her social activities, including church work, because of her home ties. Three months ago her father became ill and she sat up every night with him, on top of all her other duties. After six weeks he died, and within two days she developed a fierce rosacea. The outbreak was attributed to the strain of nursing her father.

I suggest that the true explanation is that her father was a great burden to her, and subconsciously she must have desired his death, though, with characteristic overcompensation, she sat up every night during his illness. When he did die the fulfilment of her suppressed wish produced a sense of guilt lest she had in some way contributed to his death, and as a result she developed a guilty flush—i.e., rosacea. I explained all this to her and told her that she must live more for herself and move with her mother into a small easily run cottage; this, together with some local treatment, produced a dramatic improvement. It has been suggested that the emotional factor acts upon the face only indirectly through its influence on gastric tone, which has been shown to be related to rosacea (Eastwood, 1934). I do not think that it is necessary to introduce this complication when one remembers how directly flushing of the face is related to nervous influences; and, anyhow, the important thing is that all cases of rosacea should be considered from the psychological aspect.

That worry makes the hair fall out is a popular conception. I would go further and say that all cases of alopecia areata are nervous in origin and that all successes claimed for local treatment are due to suggestion or spontaneous improvement, though I admit that the actual speed of growth of hair is increased by hyperaemia. One could give endless instances of acute or chronic psychological factors causing alopecia, and there is a type of patient who reacts to adversity by losing his hair and is likely to do so repeatedly whenever things go against him. The following case, which was under the care of Dr. Ingram for several years, and which he has allowed me to quote, is a good illustration of the effect of nervous influences.

A. B., an only boy, suffered from alopecia totalis from about 7 years old. He was given a great variety of treatment at the General Infirmary at Leeds, including ultra-violet light, *x* rays, hormones, etc., without result. The parents, who lived in an isolated house, kept an anxious watch on the boy's scalp, but each morning failed to reveal any growth even to the closest scrutiny. Finally, after several years of treatment, Dr. Ingram insisted that the boy, who was now 14, should be sent away from home. After his first term at boarding school he returned home with a complete head of hair.

Another condition in which a sudden shock or a definite period of strain plays an obvious part is lichen planus. The onset of this disease is often dramatic; one patient of mine had a sudden attack of haematuria and developed lichen planus two days later, while another broke out the next day after answering the telephone and being told that her best friend had been killed. In these and similar cases the emotional factor is the trigger that sets the condition going, and the case is often rapidly cured; when, however, the rash develops after a period of worry or nervous strain, it may require considerable readjustment in the patient's mode of living before a cure can be effected.

Hyperidrosis; Warts

Hyperidrosis is a problem of some magnitude in the Army. The usual sufferer is of the active, highly strung type with tremor of his hands and feet—often a good soldier, but relegated to a low category because of his feet. The condition is almost incurable by ordinary means, though it can be controlled to some extent by foot toilet, sodium hexametaphosphate, etc. An indication of the real cause of the condition is given by the following patient of mine:

Cpl. X., a first-class soldier, but Category C because of severe hyperidrosis, had never had any trouble with his feet until 1940, when he was evacuated from Dunkirk. Since then he has had sweaty feet, which he attributed to wearing boots and marching continuously for five days. Examination showed his feet to be offensive, with the characteristic livid hue over the ball and outer side of the feet and heels, "honeycomb" maceration of the soles, and sodden skin between the toes (this latter is often wrongly diagnosed as ringworm). The hands are sweaty and tremulous.

The explanation is obvious: the experience at Dunkirk made him sweat and tremble with fear, and this emotion has persisted in his subconscious and is responsible for the persistence of his symptoms. Here is a real line of attack on this incapacitating condition, but in most cases it is by no means a simple psychological problem even for the trained psychiatrist.

One final condition might be of interest to the psychiatrist—the common wart. Warts are due to a virus, and can be transmitted from one person to another by injecting an emulsion of wart tissue. Despite this, Bruno Bloch maintained that he could cure 75% of warts by suggestion. My own experience confirms this possibility, and everyone will recall instances of warts being cured by methods which border on the magical. We have here apparently a remarkable instance of the course of an infection being modified by a psychological process, though I doubt if the psychiatrists would appreciate being sent all the patients with warts who crowd the skin clinics.

Conclusion

This paper is by no means exhaustive, but I hope it will indicate the importance of the psychological approach to dermatology and the close liaison there should be between the dermatologist and the psychiatrist. In the Army there is now ample provision of psychiatrists, and Army specialists of all kinds, having got accustomed to co-operating with them, will surely demand a similar service when they return to civil practice. Unfortunately exigencies of the Service tend to stress the diagnostic aspect. When we return to civil life we shall no longer be able to dispose of our difficult cases by boarding them to Category E, and it is among these that in the future I hope to see the psychiatrist playing a large part in dermatology.

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SICKNESS RECORDS OF NURSES IN A GENERAL HOSPITAL

BY

JOYCE WRIGHT, D.M.

(University College Hospital Medical School, London)

The attention of hospital administrators in various countries has from time to time been directed to the health of nurses and to the protection of hospital personnel from the occupational hazards of their work. While considerable interest has been shown in the occurrence and prevention of tuberculosis among nurses, comparatively few investigations are recorded on the nature and incidence of other ailments.

"The Maintenance of High Standards of Health in the Nursing Community" was discussed at the Congress of the International Council of Nurses in 1937. Pietzcker (1937) gave the interim two-year report of the Health Statistics Committee, whose research work comprised a five-year plan, starting in 1934. Questionaries were sent to the best-known nursing schools in 32 countries. They were evidently having educational value, for a 44% return was made in 1935, compared with 22% for the previous year; and hospitals were found to be introducing new measures with regard to staff health.

The United States National League of Nursing Education (1938) in its *Study of the Incidence and Costs of Illness among Nurses* published the results of a survey on the illnesses of student and graduate nurses. Two hundred and twenty-three nursing schools, comprising 17,364 student nurses and 8,794 graduate nurses, returned reports for the year 1937–8. The *Study* disclosed certain significant facts, among them the following:

(*a*) In the country as a whole student nurses had more illness than graduate staff nurses; the annual average number of days of illness per student nurse was 8.3 and per graduate nurse 6.6. (*b*) Clinical students were ill more than preclinical students. The annual average number of days of illness per clinical student was 9.2 and per preclinical student 5.2. (*c*) Students on the paediatric service or on the communicable diseases service had a higher illness rate than clinical students on all other services. (*d*) Average days of illness for both students and graduates were highest in January, February, and March. (*e*) The annual financial cost of hospital treatment for student and graduate nurses was estimated at 3 to 4 million dollars. (*f*) Health records of graduate and student nurses, as measured by days off for illness, were not so favourable as those of college students and of women in the clerical, industrial, and teaching fields.

A comparative study of the health of student nurses and girl college students was made by Diehl (1935), who kept records of minor and disabling illnesses among both groups during one school year. He included only those illnesses which were occasioned by acute infections or by other conditions which might be related to the work. Illnesses incurred by nurses during college vacations were not counted. After allowing for certain factors which might give rise to differences in the sickness rates of the "Nurse Group" and the "College Group," Diehl concluded that the incidence and severity of illness among the student nurses was distinctly greater than among college girls living in a comparable environment. He found that respiratory infections were 2.8 times as frequent among student nurses as among college girls, and superficial pyogenic infections 5.2 times as frequent. He attributed this to the fact that the nurses were more exposed to infection, both cutaneous and respiratory, than other students; that they had longer hours of duty; and that they were deterred from reporting minor illnesses immediately, since they had to make up time lost.

Among nurses at Cook County Hospital, Rhoads and Afremow (1938) found that acute throat infection was the greatest single cause of illness. They followed one class through its period of training and found that, on the average, each nurse was off duty for sickness for 75.5 days (7% of total training time) and that about 27% of this absence was attributable to upper respiratory tract infection. They analysed also the ward distribution of the nurses with sore throat, and discovered that where exposure to infectious diseases was greatest—i.e., the Children's Hospital and the Contagious Diseases Hospital—the incidence of throat infection was highest.

In a recent article Court (1943) reported that among the nurses of an E.M.S. sector hospital respiratory infection took first place both in days lost and in numbers of staff involved. The percentage incidence of staff so affected was 38 in 1941 and 45 in 1942, and was higher among nursing auxiliaries and assistants than among the professional group of trained and student nurses. He regarded the prevention of respiratory infection among hospital personnel as an urgent and important problem.

Sickness figures for a general hospital are given by Branson (1933) in his report on the health of nurses at St. Bartholomew's Hospital for 1922 to 1931. As an index of health he regarded the total independent attacks of illness occurring annually (especially when related to the number of nurses at risk) as more reliable than the figure for "nurse-days" lost. He found that the infections comprised by the terms "sepsis," "catarrhal disease," and "sore throat" provided, in a descending scale of contribution, about 60% of the nurses' illnesses. The heading "sepsis" covered an ill-defined but large group of septic skin conditions—"septic fingers," similar lesions of the feet, and boils. A considerable majority of these cases were "septic fingers," and apparently a good many resulted from safety-pin pricks. In a fair number the disablement lasted for a long time. The term "catarrhal disease" described the miscellany of respiratory infections, such as "colds," "influenza," and their complications; the peak period for these attacks was in the early months of the year, and accounted at times for a considerable depletion of the available staff.

Sickness Records of Nursing Staff in a London General Hospital

In order to obtain more detailed information the sickness records of the nursing personnel at University College Hospital (London), a general hospital with a training school, have been reviewed for the years 1936, 1937, and 1938. More recent data could not satisfactorily be analysed owing to the various administrative changes brought about by the war. About 80 student nurses entered the school each year; on entry all had a medical examination and a radiograph taken of the chest, and were immunized against diphtheria. Including resident masseuses, radiographers, dietitians, etc., and all grades of nurses, the numbers "at risk" were 410 for 1936, 475 for 1937, and 500 for 1938. The analysis was made from the "day book" of the resident medical officer and the home sister, who see sick staff each day, and from case records of those who were admitted to the hospital wards. In addition, data were obtained in some cases from infectious diseases hospitals and sanatoria to which nurses had been sent for treatment.

TABLE I.—*Number of Attacks and of Days Off Duty for Sicknesses lasting Less than 100 Days*

	1936		1937		1938	
No. of nurses at risk	410		475		500	
Nature of Sickness	No. of Attacks	Days Off Duty	No. of Attacks	Days Off Duty	No. of Attacks	Days Off Duty
Influenza	26	456	63	939	12	148
Colds	28	223	26	93	47	318
Sore throat	47	617	27	414	40	390
Boils, styes, etc.	59	637	43	340	96	1,045
Whitlow	46	639	27	253	57	851
Infectious diseases:						
Chicken-pox	0	0	4	101	2	97
Diphtheria	1	83	3	228	0	0
Measles	3	141	0	0	1	35
Mumps	1	31	1	13	0	0
Pertussis	1	28	0	0	0	0
Rubella	2	17	22	317	0	0
Scarlet fever	4	306	7	370	0	0
Catarrhal jaundice	0	0	5	184	4	174
Glandular fever	3	143	0	0	2	69
Gastro-enteritis	34	340	51	355	39	329
Other gastro-intestinal disorders	5	57	14	152	31	237
Injuries	22	189	26	214	37	384
Rheumatism, lumbago, and sciatica	8	129	10	257	11	222
Operations:						
Appendicectomy	2	65	0	0	7	324
Mastoidectomy	1	92	0	0	1	87
Tonsillectomy	5	135	0	0	1	132
Other operations	2	77	2	133	1	40
Debility, etc.	9	100	5	81	5	73
Miscellaneous	31	475	25	269	22	213
Total	340	4,980	361	4,713	416	5,168

TABLE II.—*Number of Attacks and Days Off Duty for Sicknesses lasting More than 100 Days*

1936			1937			1938		
Nature of Sickness	No. of Attacks	Days Off Duty	Nature of Sickness	No. of Attacks	Days Off Duty	Nature of Sickness	No. of Attacks	Days Off Duty
Gastric ulcer	1	104	Appendicitis and Sonne dysentery	1	106	Septic glands of neck	1	104
Hyperthyroidism	1	Left	Hysteria and migraine	1	115	Poliomyelitis, abortive	1	143
Influenza and pleurisy	1	109	Influenza and lobar pneumonia	1	206	Rheumatoid arthritis	1	172
Sacro-iliac strain	1	166	Sinusitis followed by streptococcal septicaemia	1	236	Tonsillectomy	1	132
Scarlet fever and arthritis of knee	1	292	Sore throat and subacute mastoiditis	1	194	Tuberculosis, pulmonary	2	(a) Left (b) 335
Acute rheumatism	1	148	Tuberculosis:					
			Pulmonary	3	Left			
			Of ileum	1	„			
			Unresolved pneumonia	1	„			
Total	6	819+		10	857+		6	886+

Tables I and II show in summary form the results of the analysis. Only sicknesses which involved absence from duty are recorded; these are divided into two parts—Table I, those of less than 100 days' duration; and Table II, those of more than 100 days' duration. This time-division is arbitrary, and serves merely to give an indication of the long illnesses of each year.

Table I shows that, taking the three-year period as a whole, pyogenic infections—i.e., boils, styes, whitlows, etc.—took first place, both as regards number of attacks and number of days off duty. Of a total of 1,117 attacks, 328 (29.4%) were due to pyogenic infections; and of a total of 14,861 sickness-days, 3,765 (25.3%) were due to this cause. Whitlows accounted for 130 (39.6%) of the attacks of pyogenic infection and for 1,743 (46.3%) of the sickness-

days due to it. During the three years whitlows were responsible for 11.6% of all sicknesses and for 11.7% of all sickness-days.

With figures only slightly lower than those for pyogenic infections followed the group of upper respiratory tract infections—"colds," "influenza," and sore throat—with 316 attacks (28.3% of all sicknesses) and 3,598 sickness-days (24.2% of the total). Taken together, therefore, respiratory and pyogenic infections accounted, as in Branson's figures, for nearly 60% of all illnesses and for half the number of days off duty.

Under the heading "gastro-enteritis" are included diarrhoea and/or vomiting. This condition tended to occur in outbreaks of two or three cases within a few days, or in larger outbreaks such as those of Nov.–Dec., 1937, and March–April, 1938, when 32 and 25 nurses respectively were affected. The nurses were scattered in different wards, suggesting that they had been infected from a common source—possibly in the home rather than in the hospital itself. (It is interesting to note that one of the nurses in the 1937 outbreak apparently introduced the infection to a children's ward, in which 7 children developed dysentery. From this nurse, and from 4 of the affected children, *Bact. sonnei* was isolated.)

The common infectious diseases (including scarlet fever, which might alternatively be classified as sore throat with rash) numbered 12 in 1936, 37 in 1937 (22 of which were rubella), and 3 in 1938. One case of diphtheria occurred in 1936 and 3 in 1937. The common infectious diseases were important on account of the number of days lost rather than of the number of attacks; during the 3 years they accounted for 4.7% of the total number of illnesses, but for 11.9% of the total sickness-days.

Injuries, including burns and scalds, amounted to 7.6% of all sicknesses and to 5.3% of all sickness-days. Whether or not they were due to hospital mishaps or accidents was not recorded, though in the few instances of lysol burns these were presumably incurred on duty.

Respiratory infection played a predominant part as a cause of the 22 "long illnesses" tabulated in Table II. Four of these were due to upper respiratory tract infections and their sequelae, two to influenza followed by pleurisy or pneumonia, and one to unresolved pneumonia. During the three years 7 of the nurses who suffered from long illnesses left the hospital; of these, 4 had developed pulmonary tuberculosis and 1 tuberculosis of the ileum. Another nurse, who suffered from pulmonary tuberculosis, returned after an absence of 11 months. The figures presented here are too few to form the basis for a discussion on the incidence of tuberculosis among nurses. A growing realization of the tuberculosis risk in hospitals has led to investigations by numerous workers, particularly in Norway and the United States. Soper and Amberson (1939) summarize the situation by stating that prevailing opinion strongly suggests that the incidence of tuberculosis is higher among student nurses than among females of similar age groups in the general population. Tuberculin tests almost without exception indicate year by year an increase of infection out of proportion to that of the general population. These authors advocate certain minimum precautions and stress the importance of case-finding among patients, for they consider that unrecognized cases of open tuberculosis are a serious menace in general hospitals.

Standards for the Maintenance of Nurses' Health

The Ministry of Health Interdepartmental Committee on Nursing Services (Interim Report, 1939) discussed the question of the care of nurses' health and the provision of medical attention, in the form both of medical inspection and of attention during sickness. The report stated that medical inspection of entrants seemed to be general, though not universal, but that apparently in most hospitals no further inspection was made during training. It recommended the practice of thorough medical examination, with a chest radiograph, four times during the training period and again on appointment to the staff.

Pietzcker (1937) tabulates the international figures derived from her questionary on the subject of medical inspections, chest radiography, immunization, etc. Her figures for seven countries, including Great Britain, are shown in Table III.

At the 1937 Congress of the International Council of Nurses Lambie of New Zealand emphasized the need for standards of health and service which could be followed in every training school. The following measures which she proposed are in many ways similar to those of the numerous American Health Programmes for Nurses, of which Fuld (1937) and Davies and Frost (1940) have described examples, and to the recommendations set out more recently in this country by the King Edward's Hospital Fund for London (1943) and by Court (1943).

1. General Health Measures.—(*a*) Adequate living conditions, with individual rooms and good recreation-rooms. (*b*) Three well-balanced and regular meals each day or night. (*c*) A carefully considered programme of work, recreation, outdoor exercise, and sleep. (*d*) Regular leave and off-duty time.

2. Physical Examinations, etc.—(*a*) Medical and dental examinations on entry. (*b*) Radiograph of chest on entry. (*c*) Diagnostic skin tests, and immunization against diphtheria and enteric fevers. (In some hospitals immunization against smallpox and scarlet fever is also the rule.) (*d*) Repetition of medical and dental examination, and of chest radiograph, at intervals of 6 to 12 months. (*e*) Repetition of tuberculin test six-monthly in negative reactors. (*f*) Monthly weight chart for each nurse. (*g*) Correction of physical defects, if any.

3. Care of Sick Nurses.—(*a*) Opportunity to report sick at any time without fear of rebuke. (*b*) Encouragement to report minor disturbances of health immediately. (*c*) Direct access to medical advice. (*d*) A properly equipped minor ailments surgery. (*e*) Adequate sick-room accommodation.

4. Aseptic nursing procedures which should be carried out in the light of modern bacteriological information and which should be kept up to date with new advances.

5. Education of the nurses as to the value of a health programme, and the development of their interest in preventive medicine and "positive health."

6. Research as to the effects of hospital service upon the health of nurses, as shown by the incidence, nature, and predisposing causes of their ailments.

TABLE III.—*Figures regarding Medical Examination, Immunization, etc., of Nurses in Various Countries. (From Pietzcker, 1937.)*

Country:	G.B.	U.S.A.	Canada	New Zealand	France	Norway	Rumania
No. of hospitals taking part ..	20	27	38	26	31	9	4
Percentage of examined nursing students rejected on grounds of ill-health	7	5	8	8	5	22	8
Percentage of hospitals giving *x*-ray examination to all nursing students	—	71	95	73	87	78	100
Percentage of hospitals giving immunization to nursing students against							
Smallpox	85	82	84	—	74	—	75
Diphtheria	25	85	84	—	74	11	25
Scarlet fever	15	44	47	—	—	—	25
Enteric fevers	—	85	74	50	97	22	50
Tuberculosis	—	—	—	—	—	33	—
Percentage of hospitals requiring or providing dental examination	95	89	90	100	71	67	75
Percentage of hospitals giving medical examination during first year to all nursing students	45	89	84	77	94	90	100
Percentage of hospitals giving medical examination; also later as a rule	0	85	58	62	52	44	100
Percentage of hospitals checking weight of nursing students monthly or quarterly	5	85	82	100	77	22	100

Discussion

While there has been considerable interest in the occurrence and prevention of tuberculosis among nurses, little information is available concerning the nature and incidence of other illnesses. Certain American workers have found that student nurses are more subject to illness than college girls; and Diehl (1935) observed that this higher morbidity rate was mainly due to cutaneous and upper respiratory tract infections. This fact he attributed to the nurses' occupational hazards; and data collected by the National League of Nursing Education in the United States confirm his findings. Its survey indicated that student nurses on their clinical course had a higher sickness rate than those who, on their preclinical course, were not in contact with ward work; and, further, that among nurses undertaking duties where exposure to infectious diseases was greatest—as on the paediatric and communicable diseases service—sickness rates were higher than elsewhere.

The figures presented here from the records of University College Hospital for 1936 to 1938 confirm those of Branson

for St. Bartholomew's Hospital for an earlier date, in that nearly 60% of all attacks of sickness were due to pyogenic and respiratory tract infections. In both series sepsis took first place, both for number of attacks and for number of days of sickness. In this they differed from the figures of Rhoads and Afremow and of Court, who found that respiratory tract infections were the main cause of absence through sickness. The high rate of whitlows among nurses is worth mentioning. Branson found that this condition was responsible for a considerable majority of the cases of sepsis; and at University College Hospital it accounted for 11.6% of all attacks of illness and of all days lost through sickness. Spooner (1941) observed that septic fingers and hands among the nurses of a surgical ward seriously interfered with the work; and the present investigation was, in fact, encouraged by the frequency of whitlows among the nurses of a war-wounds ward.

The many cross-infection studies of the last few years have shown that nurses not infrequently acquire infections from their patients. Okell and Elliott (1936), for example, working in an ear-nose-and-throat hospital, found that nurses were implicated in nearly half the ward outbreaks of haemolytic streptococcal infection, and that the nurses' infections were associated with the same types of haemolytic streptococci as those which cross-infected the patients. While aseptic techniques have been regarded mainly from the angle of protecting the patient from the nurse, their function is dual: they should also serve to protect the nurse from the patient. This aspect of nursing technique has been stressed more in sanatoria for tuberculosis than in other types of hospital.

The present scanty information regarding the predisposing causes of the illnesses to which nurses are prone indicates that there is scope for further investigation on the matter. That infection rates may vary considerably from one group of nurses to another within the same hospital is to be seen from the figures tabulated by Court. He found, for example, that respiratory infections during 1942 varied from a 23% incidence among student nurses to a 68% incidence among assistant nurses, and that, while septic fingers developed among 13% of the latter group, they occurred among only 1.6% of the trained staff. It would be interesting to know if the operating-theatre staff, who are protected by masking, gowning, and a meticulous aseptic technique, have a more favourable health record than nurses on ward duty.

To gain more knowledge of nurses' sicknesses and their causes careful recording and analysis would be required with regard to age, years of service, ward assignment, nature of duties, and day and night schedule; and also to the clinical character and duration of each sickness, and the length of sick-leave. In addition, accurate records of the number of nurses at risk in each circumstance would be needed for the determination of the comparative sickness rates. An investigation of this kind should throw light on the reasons for the generally recognized high rate of skin and respiratory tract infections among nurses; and the information gained would be a necessary preliminary to the introduction of special measures for their prevention.

Summary

An analysis is made of the nature and incidence of sickness among the nursing personnel at University College Hospital during the three years 1936 to 1938. More recent figures could not be used because of the various administrative changes brought about by the war.

Among the causes of sickness and days lost through sickness, pyogenic infection took first place, closely followed by upper respiratory tract infection. The two infections taken together accounted for nearly 60% of all sicknesses.

Whitlows were responsible for 40% of the pyogenic infections, and for 11.6% of all sicknesses and of all days lost.

Common infectious diseases were important for the number of days lost rather than for the number of nurses involved.

Of 22 long illnesses (more than 100 days), 6 were due to tuberculosis (5 pulmonary and 1 of the ileum); 7 other long illnesses were caused by complications resulting from respiratory infection.

The importance of nurses' sickness in relation to cross-infection problems is discussed, and stress is put upon the need to investigate further the predisposing causes of infection among nurses, as a preliminary to prevention.

I am indebted to the Matron, Assistant Matron, and Home Sister of University College Hospital for their assistance with this work; to the Nursing Committee of the hospital for permission to publish the figures; to Prof. A. A. Miles for his help and advice; and to the Medical Research Council for a personal grant.

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CYCLOPROPANE FOR DENTAL SURGERY IN CHILDREN*

BY

K. B. PINSON, M.B., Ch.B., M.R.C.S., D.A.

Anaesthetist to the Manchester Royal Infirmary

School-children, a few younger pre-school children, and expectant and nursing mothers attend the Stretford Borough clinics for dental treatment. Roughly 65% of those offered treatment accept it. It being desirable that this percentage should rise, any necessary anaesthesia should be as pleasant and as free from distress as possible. I am indebted to Mr. Ronald Bradbury, L.D.S., now serving as a dental surgeon in the Army, to Miss A. M. Paterson, L.D.S., and to Miss P. E. Pendlebury, L.D.S., for their co-operation. A short account, by Mr. Bradbury and myself, of the first 75 cases with cyclopropane appeared in the *British Dental Journal* on June 3, 1943, and these cases are included in this series because, although the method was afterwards altered somewhat, the essence of it remained the same. Follow-up observation was impracticable, and so of only a small proportion is there any information as to progress at home.

The method is simple, and so is the apparatus required. This simplicity is made possible by the slowness with which CO_2 accumulates in a breathing-bag in the case of children, so that its removal by soda-lime absorption, which generally is a *sine qua non* in cyclopropane anaesthesia, is not necessary. For older children and longer operations than the extraction of teeth the method is thus unsuitable. The technique is almost rule of thumb. Cyclopropane is a most potent gas, but if given by an anaesthetist of experience there appears to be only one risk which he will have to bear in mind. As will be seen, its origin is salivation. Other anxieties are conspicuous by their absence. In roughly a quarter of these cases the administration was by students.

Cyclopropane recommends itself for this work because it combines the following desirable qualities, variously present in other agents: an attractive induction, rapid and smooth; ample time and ample depth of anaesthesia; freedom from untoward effects such as blueness, breath-holding, movement, spasm, difficulty of administration owing to mouth-breathing or attainment of a correct mixture or insufficiency. It also has one advantage over all others—the degree of jaw relaxation. Early relaxation of muscles is a characteristic of cyclopropane, but of the jaw muscles it is a peculiarity. As a rule the mouth gag is not used—a benefit by no means trivial. There are disadvantages, however, as will be seen, and they appear in the after-effects—chiefly sickness. Comparison has to be made with other satisfactory systems—with vinesthene, and with continuous nitrous oxide with oxygen, trilene, or vinesthene. There are cases for which cyclopropane is preferable to any of these.

* A survey of the first 500 consecutive cases at the Borough of Stretford School Dental Clinic.

Description of Apparatus

The apparatus used comprises: (1) a holder for the cyclopropane cylinder; (2) a measuring device; and (3) a breathing-bag, connected to a nose-cap by as short a length as possible of wide-bore tubing. There are no valves. For (1) any convenient stand or place to fix the cylinder yoke is suitable: we have a separate disused N_2O apparatus. (2) The very satisfactory measuring device we use consists of a small rubber bag, fixed adjacent to the cylinder, which holds rather over a pint, and which is filled direct from it. Between this and the rebreathing-bag is a Higginson syringe, by which its contents are delivered as desired into the breathing-bag. An oxygen cylinder with a fine adjustment or a reducing valve is also connected to the breathing-bag. Three of the small bagfuls is the usual consumption of cyclopropane. (3) The breathing-bag is of the common two-gallon capacity, and its mount is screwed to the chair as near to the patient's head as possible. About a foot of flexible wide-bore tubing connects it direct to the nose-cap.

Mode of Use

This simple apparatus is very straightforward in use. The child is seated in the chair and the nose-cap quietly applied. As he is engaged in conversation the breathing-bag becomes one-third filled with oxygen. He is now told to keep his mouth closed for a minute, as it is easier to breathe through the nose. This he finds unobjectionable, because there is only oxygen in the bag. The measuring-bag is now filled, and the contents pumped, slowly at first, into the breathing-bag by squeezing the ball of the syringe, preferably during expiration. The method is a closed one, so that mouth-breathing is to be avoided almost from the start.

Cyclopropane is easy to inhale, is not resented, and rarely gives rise to any movement, much less to struggling or spasm. Sleep comes quietly and quickly, so the second and third pints follow the first without pause, and can be pumped more rapidly as the child becomes unconscious. Perhaps half the contents of the bag will be oxygen, and more can be added, although as a rule little is lost (through mouth-breathing) during the extractions. The colour remains perfectly good. Work is begun as soon as the patient is under and the jaw relaxed. No change is made; the nasal breathing continues, and the effect of gradual accumulation of CO_2 is offset by respiratory depression.

Table showing Analysis of First 500 Cases

A. Number	B. Dangers encountered	C. Difficult Cases (or not Completely Satis actory)	D. Salivation	E. Sick	Felt Sick
500 cases. 1 to 91 and No. 109: face-piece over mouth and nose. Remainder by method described	1 (No. 43)	25 (9 due to salivation)	37	In chair, 20; in recovery room, 84. (21%.) (6 were noted as having had food)	7

F. Ill After-effects (Other than Vomiting and Reports from Home)	G. Serious After-effects	H. Reports from Home	I. Ages	J. Special Cases
18	None	(Very incomplete) 3 quite well a ter 4 sick or poorly 5 at school next day 1 off school 5 days 1 ,, 3 weeks	1 to 5 (75) 6 to 8 (196) 9 to 11 (126) Over 11 (78) Not noted (25)	3

K. Consumption and Cost.—Gallons, 120½; cases, 299; gal./case, 0·42; pints/case, 3·3; case/gal., 2·4; cost per case, at 2s. 6d. per gal., 1s. 0½d.

Temporary or partial obstruction does not matter, as oxygenation has been perfect; neither does it result in heaving efforts to breathe. Quietude and jaw relaxation are, in fact, noteworthy. With big children, CO_2 begins to mount after a minute or two and causes deeper breathing, and consequently mouth-breathing and loss of gases from the bag. On only a few occasions, however, have more O_2 and cyclopropane been added.

At the end of the extractions the nose-cap is removed. Colour, breathing, and condition alike are good, and recovery of consciousness takes only a minute or so, though it is not so quickly complete as in other eligible methods, and if food has been taken the child will vomit very soon. The children do not usually walk from the room, but are carried. They are able, however, to sit up over a basin and wash their mouths out with water.

From the point of view of the dentist it is perhaps the most satisfactory method of all for those cases to which it is suited—that is, to children up to 12, or for work not taking more than three minutes or so. Also, from the point of view of the administrator it is very safe, and is free from troubles and anxieties. From that of the patient, however, while induction is equally as acceptable as that of other means—perhaps more acceptable—the after-effects sometimes fall short of what is desirable.

Remarks

(B) The patients sometimes secrete profusely, and the respiration is always rather depressed; if saliva is allowed to trickle down the larynx, that and the consequent laryngeal spasm, and the enfeebled breathing effort, may bring about asphyxia. The treatment, apart from prevention, would be to invert the child (so as to empty out the saliva) and blow into the lungs a little oxygen or air—e.g., by mouth-to-mouth insufflation. This procedure is well known to anaesthetists, is simple, is quite efficacious, and should not be delayed. It would be well if it were better known to the occasional anaesthetist. Such was the case with No. 43. More cyclopropane was given immediately afterwards and the extractions done. This patient slept afterwards for a while, but was not sick.

(C) Apart from those cases in which salivation caused some obstruction or blueness, three gave incompletely satisfactory results owing to mouth-breathing during induction. Two coughed, one of whom—6 years old and attending the open-air school on account of his chest—coughed almost incessantly before, during, and after induction. He became blue at one time. In seven the anaesthesia, though sufficient, was poor. Two were restless or struggled for a few moments, and in three the jaw was tight. One was a poor colour and one was very sick. In no case was the work left uncompleted, and in none was any pain experienced. It should be noted that some of the cases were managed by students.

(D) Regarding salivation, a little experience overcomes any difficulty.

(E) Cases of vomiting were carefully noted, though doubtless some were missed. Generally it was soon over.

(F) Ill after-effects were of a minor character. The patients so affected include five who were irritable or rough for a short time before quite coming round, four who were drowsy, four who cried, two who were a bad colour or pale, two who felt poorly, one who was faint, and one who coughed a great deal. One of these stayed two hours before going home; the rest soon recovered. One had had no ill effects after cyclopropane three weeks before.

(H) With regard to school attendance afterwards, there was always a proportion, after any anaesthetic, who did not go back for a few days.

(J) Under this head, one was an imbecile girl aged 10 who took the anaesthetic without difficulty and had no ill effects. Another was a bad asthmatic—a small boy attending the open-air school. He was a mouth-breather, was not well under, and was off school for five days afterwards. Cyclopropane was chosen as being most suitable for him. The third was the boy of 6 who coughed almost without stopping, and so was difficult.

It is not easy to convey an impression of how the administration goes or how the children react. In general, a cap over the nose is less alarming than a face-piece which covers both nose and mouth. In either case we do not often have any trouble, and crying is uncommon. With few exceptions the children behave very well indeed. Cyclopropane induction is notably smooth, and a sleepy feeling overcomes them very soon. Being unhampered by valves, etc., and the fact that they can talk and that there is no hurry, help them to be confident. The method is thus rather easier to manage than others. Of preparation beforehand there is none beyond abstinence from food. We do not give atropine.

Summary

A description is given of a new method of administering cyclopropane for dental extractions in children and of the apparatus employed. A detailed review of the first 500 cases is made. The conclusion is advanced that it is a simple and safe method, advantageous to the dentist and giving full satisfaction in all respects except for undesirable minor after-effects, and that the incidence of vomiting is rather high. The cost is a little more, but still is comparable with that of other systems.

EARLY SECONDARY REPAIR OF COMPLETE TEARS

BY

PERCY MALPAS, F.R.C.S., F.R.C.O.G.

Honorary Surgeon, The Women's and Maternity Hospitals, Liverpool

There is still a general lack of agreement as to when complete tears that have broken down after immediate suture should be repaired again. In most of the textbooks the point is evaded by the statement that when a primary repair is done within 24 hours of delivery a successful result is usually obtained. While there is no doubt that this is true if the repair has been carefully done under good operating conditions, many do break down within the fortnight under the conditions of general practice. This is shown by the frequency with which patients with complete tears come up for operation months or even years after delivery. For instance, during the last five years 40 of such cases have been operated upon in the Women's Hospital, Liverpool. In each of these an immediate repair had been unsuccessful; healing by second intention had been allowed to take place and the necessary repair deferred until the patient was driven to hospital by the inconvenience of the incontinence or freed from the responsibility of the care of the baby to have time for the operation. Most of these late operations would have been avoided by the procedure here suggested.

The recommendation given by most authorities is that a secondary repair is best deferred for at least three months after delivery, until the parts are clean and involution has taken place. Against such a course there are, however, two very real objections. In the first place, the woman is left most uncomfortable at a time when she needs all her energy. In the second place, involution, though bringing certain advantages, entails the great disadvantage that both the torn muscle and the mucous surfaces retract and undergo permanent shortening, with the result that undue tension is needed to reapproximate the tissues. The reason usually given for deferring the re-suture is that the raw surfaces are granulating and infected, and union therefore is not likely to be obtained. Smellie (1758) describes one such case:

> "I was called by a midwife to a woman on the fifteenth day. The Perinaeum, Vagina and Rectum were tore into one about the length of two inches which prevented the retention of the faeces. The edges of the lacerated parts were beginning to skin over. I attempted with scissars to pare the edges, as in the hair lip; but could not possibly hold the parts so as to effect this purpose. I then armed a lancet, and with the point scarified them and with great difficulty made two stitches through the Vagina and Rectum and two in the Perinaeum; but in two days this brought on a large inflammation and the stitches all tore out. The parts digested and skinned over but did not cement or join together; however they contracted in such a manner that in three months after she could retain her excrements."

There is no doubt that these cases do look at first sight most unsuitable for early repair. The raw surfaces are covered with granulations, the tissues are friable so that the sutures tend to cut through, and the whole area is heavily contaminated with faeces.

On the other hand, and despite these objections, early re-suture is a practicable procedure; in the six cases I have seen during the past two years it has been employed, and proved a success. The operative difficulties are easily offset by the advantages gained by doing the operation at once.

Four of the patients had been delivered with forceps by their own doctors in nursing homes. The other two had been delivered with forceps in hospital by residents. In every case primary repair had been undertaken at once but had broken down within a week of delivery—in five of the cases completely, and in one partially so as to leave a recto-vaginal fistula. Two of the cases were pyrexial owing to a uterine infection.

In each case a secondary repair was undertaken as soon as it could be arranged—one 7 days after delivery, one 10 days, one 13 days, one 15 days, one 3 weeks, and one 4 weeks. In the two pyrexial cases operation was delayed until the acute uterine infection had subsided. During the few days before operation the raw surfaces were kept as clean as possible, but otherwise no special treatment was given. Five of the repairs were done personally; the sixth was done by Miss M. Mayeur, F.R.C.S., on one of the hospital cases.

Every case healed well and gave no more trouble than the usual complete-tear repair. Complete control and healing were established within two weeks of undertaking the repair. The convalescence of one of the pyrexial cases was complicated by repeated secondary haemorrhages from the uterus. Despite the patient's poor general condition and the need to treat the haemorrhage by firm vaginal packing, the perineum healed normally.

The operation calls for no special technique, although good operative conditions are essential. It is neither possible nor desirable to coapt the skin of the perineum very closely, with the result that the appearance of the perineum at the end of the operation is not artistic. No special attempt need be made to clear the granulations from the raw surfaces, but most are in fact cleared away by the manipulations employed in defining the rectal mucosal edges and the ends of the torn sphincter. Great care must be taken to free the rectal and anal mucosal flaps completely from the underlying tissues. This should be done so freely that the two edges of the mucosa fall into apposition even before the sutures are inserted. As in all these repairs, special care must be taken to close the upper end of the rectal tear. After dealing with the mucosa the perineal body is repaired and the sphincter restored in the usual way. Little or no trimming should be done, even at the expense of leaving an irregular suture line. Interrupted stitches should be used throughout—No. 2 plain catgut for the rectum and deep tissues, silkworm-gut for the perineal skin. A short split-tube rubber drain is an advantage, left in the recto-vaginal space and brought out through the centre of the perineum, and remaining in position for two or three days.

While the object of this note is to draw attention to the possibility of early re-suture, reference may properly be made to the likely causes of the failure of the initial repair. The immediate technical fault in most of these cases is certainly the failure to suture the upper end of the mucosal tear. When the repair breaks down the disruption usually takes place from above downwards; first a recto-vaginal fistula appears, and then the whole wound "gives," the skin perineum last. There is no doubt that this primary failure in technique is due to the difficulties caused by poor operating conditions, uterine haemorrhage obscuring the field, and perhaps the strain of the antecedent forceps delivery. Many, if not most, of the failures would be avoided if it were the rule to defer the primary repair of complete tears for 12 to 24 hours after delivery, until better conditions and perhaps better assistance can be obtained.

REFERENCE

Smellie, W. (1758). *Collected Cases*, 2nd ed., **3**, 320, B. Wilson, London.

Medical Memoranda

A Case of Compressed-air Illness

Compressed-air illness, more commonly known as "bends," is a disease familiar to all divers, airmen, and medical officers associated with this work. The present great increase in altitude flying and underwater work has revived interest in this formerly limited industrial disease. Briefly, it has its origin in a dangerous and excessive release of pressure of air, which causes the tissues to become supersaturated with nitrogen and bubble formation to occur. These bubbles may appear in the circulating blood and cause pulmonary embolism; in the vicinity of joints or muscles, causing the most common syndrome of "diver's bends"; or in the central nervous system, causing coma, confusion, cerebral palsies, and various types of myelitis with paralysis of limbs and incontinence. Symptoms vary enormously, depending on the site of formation or lodgment of the bubble. As fat dissolves far more nitrogen than water, the occurrence of bubbles in the central nervous system is not a

surprising event. Itching of the skin, which is often encountered after decompression, is also ascribed to minute bubbles in the subcutaneous fat. Skin rashes occur, and may be due to minute emboli in the cutaneous vessels.

Ordinary "bends" are severe boring pains in the vicinity of the large joints and the small joints of the hands and feet, particularly in persons suffering from old trauma or disease. This is by far the most common form of the disease, and, although causing great pain, it in no way endangers life. These pains have been ascribed to bubble formation in the ligamentary and tendinous insertions, embolism in the vascular bed involved in infective osteomyelitis, or bubble formation in the nerve trunks or central nervous system, causing referred pain. Itching of the skin may also be due to more distant neurological events.

At present, therefore, various paralyses are known to be due to interference with the motor centres or motor path, but sensory disturbances of nervous origin, apart from blindness and deafness, are not encountered in the literature. The following case is thus of great interest.

CASE RECORD

A petty officer of the Royal Navy, aged 38, weight 174 lb., of lean athletic build, acted as attendant to an experimental subject at a pressure of 40 ft. of sea-water (18 lb.) for two hours. He was breathing air the whole time, and wore no respiratory apparatus of any kind. He "surfaced" (returned to atmospheric pressure) in one minute, no stops being necessary according to the Admiralty decompression table (after the late Prof. J. S. Haldane).

Five minutes after "surfacing" a pain developed in the top left premolar. It was a severe pain with an unusual emotional content. This was at first thought to be due to a sealed cavity under a stopping of the tooth or to an abscess cavity at the root. The subject was immediately recompressed to 18 ft. of sea-water, when instant relief of pain occurred. He was returned to atmospheric pressure in 30 minutes. After this, pain, although still present, was less severe. He then went to lunch, during which the pain increased in severity and anaesthesia of the upper left gum and teeth developed, the posterior tooth and gum being first involved, and anaesthesia spreading forward and ceasing at the midline. The pain remained localized to the premolar. It was now apparent that a bubble had formed, involving the second branch of the trigeminal nerve. Appropriate subcutaneous anaesthesia was not present.

Immediate recompression to 12 lb. was carried out, and relief was at once obtained. Decompression at the rate of 8 minutes per lb. was instituted. At 5 lb. the pain in the tooth returned, but was not severe, and decompression continued. At 3/4 lb. anaesthesia returned, followed by a most agonizing neuralgia in the whole of the distribution of the second branch of the trigeminal nerve. The patient sweated, bit on his handkerchief, and was writhing with pain. The tender points of Valleix (temporo-malar and infraorbital) were present. Immediate recompression to 13 lb. was carried out, with complete disappearance of symptoms. Decompression at a slower rate of 12 minutes per lb. was then performed, and the patient "surfaced" symptomless, and has remained so ever since. Tenderness had also completely disappeared.

COMMENT

There is no previous history of trigeminal neuralgia, ear, nose, or throat infection, or dental caries. He suffers sharp dental pain in this particular premolar if it is exposed to extremes of temperature, and there is slight enamel erosion at the base near the gum. Recent dental examination revealed no other disease.

The points of interest in this case are: (1) The occurrence of bubble formation after exposure to such shallow depth. (2) The occurrence of bubble formation in a diver who has been exposed to varying degrees of pressure several times a week over a period of a year and a half without symptoms. In this time it had been ascertained that he was apparently extremely resistant to "bends," but the long period of pressure work may well be a contributory factor to the attack described. This case is a good example of how compressed-air illness may occur when and where it is least expected. (3) The occurrence of bubble formation definitely involving a sensory nerve. (4) The attack of tic douloureux, involving the whole distribution of the second branch, suggests very strongly the involvement of the Gasserian ganglion, and adds weight to the previously tentative opinion that many cases of "bends" in joints may be due to bubble formation in the sensory ganglia. The occurrence of anaesthesia in a limited zone in association with severe neuralgia is an interesting problem for neurologists. (5) Hard work of any group of muscles, at pressure, is well known to predispose to "bends" in that region, and in this case the attendant sang loudly and uproariously for over an hour, for the supposed edification of the subject. Whether or not this explains the site of the disease is problematical, but this may be the first reported case of "operatic bends."

K. W. DONALD, MB., B.Chir.,
Surg. Lieut.-Cmdr., R.N.,
Medical Officer in Charge of Admiralty Experimental Diving Unit.

Reviews

PICTORIAL AIDS TO ANATOMY

Illustrations of Regional Anatomy. By E. B. Jamieson, M.D. Fifth Edition. Section I: Central Nervous System (50 plates). Section II: Head and Neck (64 plates). Section III: Abdomen (44 plates). Section IV: Pelvis (35 plates). Section V: Thorax (32 plates). Section VI: Upper Limb (42 plates). Section VII: Lower Limb (52 plates). (Bound volume 75s. plus 10d. postage.) Edinburgh: E. and S. Livingstone. 1944.

That the fifth edition of Dr. E. B. Jamieson's *Illustrations of Regional Anatomy* should have appeared during wartime so soon after its predecessor is undoubted evidence of its popularity, and the care which has been taken both by the author and by the printers to obtain clarity and accuracy in the figures and pointer legends is manifest to anyone who has to deal with this kind of work. In these days, when it is of the utmost importance that time should not be wasted in unnecessary efforts, and that the eye-strain incurred in the identification of particular reference letters in a legend should be avoided, the gain arising from the use of clear pointer legends is obvious. Although from the standpoint of operative surgery nothing can replace the basic knowledge of anatomy gained in the dissecting and post-mortem rooms, illustrations such as those in the work we are considering are manifestly of great value to the student in a rapid revision of the whole field of anatomy just before an examination, and these clear-cut coloured figures admirably fulfil this purpose. There are, however, a few points which call for comment: thus in Plate 271 (Lower Limb) the pointer, which should indicate the groove *behind* the fossa for the attachment of the tendon of the popliteus muscle, is directed to the flat surface on the lateral condyle of the femur, immediately *in front* of the fossa, and in the illustration there is no indication of the groove itself. A note of warning is also necessary in order to counteract false impressions which may arise from a too general simplification of the picture by omission in certain cases of the shading which is required to indicate a difference in plane between the two surfaces, more especially in the representation of convex or concave surfaces and parts which, owing to the obliquity of the object depicted in relation to the surface of the paper, it is necessary to distinguish by variations in tone between a more distant and a nearer part. An example of this is seen in the postero-medial view of the ankle (Lower Limb, Plate 38), in which the more distant first metatarsal base and the medial cuneiform appear to be on the same plane as the nearer posterior surface of the calcaneus, the impression given being heightened by the sharp contrast between the unshaded dead white of the base of the first metatarsal and the black background. Apart from these purely technical considerations, however, the main purpose of the work, issued as it is in separate sections of handy size, is well fulfilled.

MEDICAL PARASITOLOGY

A Manual of Medical Parasitology. By Clay G. Huff, Professor of Parasitology in the University of Chicago. (Pp. 88; illustrated. 9s.) Chicago: University of Chicago Press; London: Cambridge University Press.

This is a laboratory guide to medical parasitology intended for use in practical classes. It describes with illustrations the life-history of the various parasites and insects involved in the production of tropical diseases. The system of classification in the three main groups under protozoology, helminthology, and entomology is dealt with in sufficient detail for the student's guidance. There is a final chapter on staining methods and other procedures to be adopted for the discovery of parasites and the diagnosis of infections. The illustrations on the whole are quite good, though one wonders why the cyst wall of *Entamoeba histolytica* and *E. coli* have such irregular outlines while that of *Iodamoeba bütschlii* (referred to as *I. williamsi*) is not visible at all. The same remark applies to the cyst wall of *E. nana.*

There is a coloured plate of malarial parasites. This is excellent, save for the Schueffner dots, which have an unfamiliar appearance. It is perhaps surprising that a plate illustrating the haemoflagellates is conspicuous by its absence. Apart from these details the book will serve a useful purpose, and will be an excellent guide to have beside one when working with the microscope in the laboratory.

OTO-RHINO-LARYNGOLOGY

Office Treatment of the Nose, Throat and Ear. By Abraham R. Hollender, M.Sc., M.D., F.A.C.S. (Pp. 480; illustrated. $5.00 post paid.) Chicago: The Year Book Publishers, Inc. 1944.

The 1943 Year Book of the Eye, Ear, Nose and Throat. The Eye: Louis Botham, M.D. The Ear, Nose and Throat, by Samuel J. Crowe, M.D. With the collaboration of Elmer W. Hagens, M.D. (Pp. 580; illustrated. $3.00.) Chicago: The Year Book Publishers.

The author of *Office Treatment of the Nose, Throat and Ear* has devised a highly artificial classification of diseases into two kinds, of which the nature is evident from the title of his book. He has, however, succeeded very well in giving a practical account of the treatment which may be employed without confining the patient to bed immediately afterwards, but it is not surprising that on some occasions the dividing line becomes rather blurred. Naturally the major operations do not come under review, but he says, for example: "To-day it would sound like anachronism to speak of tonsillectomy as an office procedure, yet one may visualize it as such when the usual hospital facilities are not available." It is the custom in the U.S.A. to carry out much more treatment in the office, which is correspondingly equipped, than in the simpler consulting-rooms and out-patient departments of Great Britain. Making allowance for this it must be recognized that he describes much that it would not be wise to do in an ordinary consulting-room. There is great value in the emphasis this book lays on the large amount of treatment which can usefully be given by prescriptions, injections, physical therapy of various sorts, and very minor surgical manipulations without resort to the major surgery which is apt to fascinate the exponents of what is largely a surgical specialty. Other authors are quoted freely, especially on the endocrine and nutritional disorders to which Dr. Hollender attaches great importance. Some of the treatment is surely out of date, as exemplified by the picture of a lady wearing a dog collar to which two electrodes are attached for the cure of hysterical aphonia. This malady can be treated in the office without this apparatus, but generally Dr. Hollender is a safe guide, and he shows that more can be done by medical and minor procedures than is always appreciated.

War conditions have imposed slight alterations in the production of the *Year Book of the Eye, Ear, Nose and Throat,* but these are scarcely perceptible without direct comparison with a previous number. Except for a slight fall in the sharpness of the illustrations the quality of the contents remains unimpaired, and there will be found admirable summaries of current literature with the usual illuminating comments by the editors, who all continue their excellent work. The need for these summaries is greater than ever during the present period of difficulty in the distribution of scientific literature. They are the more valuable because the editors, who know the literature of their subjects besides being men of great practical experience, are able in a few lines to indicate the value of a paper, whether it embodies a valuable idea, whether it is just ephemeral, whether it reviews something that has already been tried and found wanting, or whether it contains some fallacious notion. Chemotherapy finds a prominent place in both the main sections. Both penicillin and the sulphonamides are the subject of much observation and experimentation. There is a curious misprint in a paper on glossopharyngeal neuralgia: the digastric is called the "digestive" muscle, but this is only noticeable on account of the laudable rarity of such errors.

Notes on Books

Spectrophotometry in Medicine, by L. HEILMEYER, translated by A. Jordan and T. L. Tippell, is published in London at 30s. by Adam Hilger. The content of this monograph is indicated by the first sentence of the author's foreword: "The present monograph has been evoked by the need for an exact physical definition of the colours of body fluids and body pigments." The translators have supplemented the original (1932) description of instruments with an account of those now used in this country, and the original German symbols have been replaced by others more commonly used here. Starting with the theory of absorption spectrophotometry, the author goes on to describe selected apparatus and methods in some detail. The bulk of the book is devoted to detailed description of the absorption curves of whole blood, haemoglobin and its derivatives and breakdown products, serum, urine, bile, ascitic fluid, and cerebrospinal fluid. Since under these headings both normal and pathological fluids are considered, as well as pigments of urine due to drugs, the book provides a comprehensive survey of absorption curves of all pigments found in association with the human body. It should be of great value to those with the facilities for carrying out spectrophotometric analyses on clinical material. It is unfortunate that more than ten years have elapsed before this useful translation has become available.

Dental Histology, by JAMES AITCHISON and JOHN S. DICK (John Bale Medical Publications; 18s.), is a small book compiled from lecture notes and will be most useful to the student when making his own slides and during revision for examinations. There are some excellent photomicrographs, but these would be of more guidance if they could be produced in colour and augmented by diagrams illustrating the structure of the dental tissues.

Preparations and Appliances

THE ROCKER WALKING IRON

Capt. G. E. FOSTER, M.D., C.M.(McGill), graded surgeon, R.A.M.C., writes from the British Military Hospital, Bermuda:

A rocker walking iron is described by Major T. T. Stamm in the *British Medical Journal* (July 3, 1943). I have used, with every satisfaction, a different type, as described below:

Description of Apparatus

(1) An iron strap, 30 in.×1 in.×1/8 in. to 3/16 in., is bent to the shape shown in Fig. 1. Heating facilitates this, but is not essential.

(2) The rocker surface is covered to prevent slipping. A piece of old bicycle tyre is suitable, and may be laced on. Alternatively, a leather strap may be riveted on.

(3) An unpadded plaster cast is applied in the usual way. The posterior slab should be substantial (15 to 18 layers).

(4) When the cast has hardened, a single plaster bandage suffices to secure the iron (Fig. 2A).

(5) The well foot should be fitted with a built-up wooden sole screwed on to a canvas shoe in order to equalize the leg length (Figs. 2B and 3).

FIG. 1

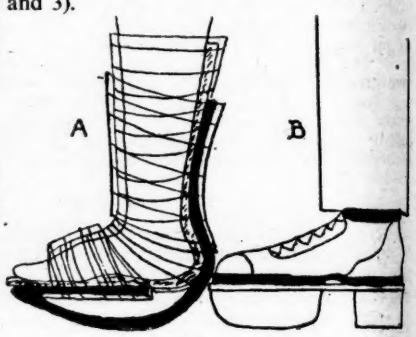

FIG. 2

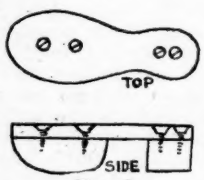

FIG. 3

Fig. 1.—Rocker iron fitted with rubber tread (from old bicycle tyre).

Fig. 2.—(A) Rocker iron incorporated in plaster cast. (B) Built-up wooden sole attached to canvas shoe on well foot.

Fig. 3.—Wooden sole, top and side view.

Advantages

(1) The rocker, as stated by Major Stamm, unquestionably "ensures a natural heel-toe action in walking."

(2) The type I describe needs no bolting to a sole plate, and the long upright part distributes the weight over more of the cast as well as stabilizing the rocker. The appliance remains firm and secure after several weeks' service, and the same iron may be used repeatedly.

(3) The built-up sole on the well foot greatly facilitates walking.

This particular rocker iron has been used in the U.S.A. and Canada for several years. The type of built-up sole I mention is standard in some U.S. service hospitals.

My thanks are due to Major S. G. M. Lynch, R.A.M.C., Senior Medical Officer, Bermuda Command, for permission to forward this paper.

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MANAGEMENT OF THE ACUTE HEAD INJURY

This war has so far yielded a much higher proportion of closed head injuries than was expected, and as a consequence emphasis has been placed on the medical aspects of their management. In the field the neurosurgeon is faced with the immediate repair of soft tissue, and a series of papers by Ascroft,[1] Eden,[2] Shorstein,[3] Cairns,[4] and others have shown close agreement in the methods they have adopted. The broad principles observed by them have been to clean up the surface wounds with the most rigorous aseptic methods available, to explore for fractures, to remove all dead tissue, foreign bodies, and loose bone down to the dura mater, but below that protective membrane to exercise a healthy regard for the reparative properties of brain tissue. Ascroft[1] urges that an apparently intact dura should be preserved, but that the best results are obtained in penetrating injuries by sucking out necrotic brain tissue, which comes away with ease, leaving *in situ* any foreign bodies the removal of which might cause unnecessary damage to the brain. He advises a light application of a sulphonamide powder, leaving the dura open to drain into the surface wound, which is in turn drained in the ordinary way.

During the last war Cushing[5] said that "every scalp wound, no matter how trifling, is a potential penetrating wound of the skull," and McKissock and Brownscombe[6] echoed this when they showed that an apparently trivial head injury may soon cease to be trivial if great surgical care is not taken from the beginning. When all the immediate steps have been taken there is a period of anxious watching, especially if the patient is in coma, and it is then that the medical aspect of the injury becomes as much a concern of the surgeon as of the neurologist. As most of the patients with closed head injuries have wounds of the scalp, or elsewhere, they tend to find themselves, when they recover consciousness, in a surgical ward, and a surgeon has to be responsible for their medical management. Jefferson[7] has shown that if a head injury is fatal death usually occurs in the first day or so, for it is most often the result of extensive laceration, involving the brain stem, the symptoms of which have been described by Denny-Brown.[8] There is unfortunately little that can be done for the patient dying from serious damage to basal structures, but there is certainly much that should not be done. The old idea that the effects of a head injury depended upon general oedema of the brain has not survived the experience of the past five years, but, on the contrary, Denny-Brown and his colleagues[9 10] have shown that the changes are instantaneous, and are a direct result of the mechanical commotion which the injury produced. The ancient title "commotio cerebri" is in fact an accurate description of the physical changes which take place, although the minute nature of these changes—whether in the neurone, blocking at the synapse, or interruption of fibre conduction—is not known. Holburn[11] has recently shown by physical models the nature of the stresses and shears which contribute to the total commotion. It seems that unconsciousness in the subject of a head injury is the result of commotio cerebri, or concussion, and that cerebral laceration, haemorrhage, or local oedema are epiphenomena. Concussion begins with a total reflex paralysis, as Denny-Brown has shown, and the severity of the laceration or haemorrhage is likely to be related to the severity of the concussion, but it is because the relation is not close that there is so much variability in the pattern of head injuries. The picture of concussion, with unconsciousness, flaccidity, and bradycardia, is complicated by signs of the local lesion, and it is the physician's main function at this stage to watch the patient for changes which indicate progression of the overlying complications of haemorrhage, whether intra- or extra-cerebral, and later of infection or oedema. It is now that watchful inactivity may be commendable and that active interference may relieve the doctor more than it does the patient.

Symonds and Russell[12] have shown that the results of conservative treatment of acute head injuries may be excellent, and that the kind of man who is injured is about as important as the kind of injury he has received. But this does not mean that the physician should remain idle. After attention to the immediate surgical condition his purpose should be to establish a base line from which he can measure any changes in the patient's condition. The depth of unconsciousness and the behaviour of the patient should be accurately assessed, and abnormal signs should be observed by routine examination. A lumbar puncture should usually be performed, not just because blood may be found, or because the pressure may be raised, but because an increase in the amount of blood or of pressure may indicate the progress of a complication such as an increasing intracerebral, subdural, or extradural haemorrhage. Patterson[13] has recently described in some detail the kind of changes which may be expected in the cerebrospinal fluid in the acute stages of head injury. *X*-ray examination of the skull may indicate a depressed fracture, or one involving sinuses or the middle meningeal region which may call for surgical intervention, or the electro-encephalogram may be used to follow the progress of the general cerebral condition.[14] The problem is primarily one of diagnosis rather than of treatment.

The actual differential diagnosis of complications when they arise may indeed be difficult, and most surgeons will have recourse to exploratory burr holes if there is any suspicion that a deterioration in the patient's condition is due to extracerebral bleeding, proceeding to exploratory

1 *Lancet*, 1943, **2**, 211.
2 Ibid., p 689.
3 Ibid., 1944, **1**, 44.
4 *British Medical Journal*, 1944, **1**, 33.
5 *Brit. J. Surg.*, 1918, **5**, 558.
6 *Lancet*, 1941, **1**, 593.
7 *Glasgow med. J.*, 1942, **138**, 77.
8 *Lancet*, 1941, **1**, 371.
9 *Brain*, 1941, **64**, 93.
10 Ibid., p. 223.
11 *Lancet*, 1943, **2**, 438.
12 Ibid., 1943, **1**, 7.
13 *J. Neurol. Psychiat.*, 1943, **6**, 87.
14 Ibid., 1941, **4**, 107.

needling if intracerebral blood is suspected. Once the possibility of any of these complications has been raised, the investigations may well pass into the sphere of the experienced neurosurgeon, who will prepare for ventriculography and craniotomy if necessary. If the watchful clinician finds no sign of deterioration in the patient's condition he should treat him by giving him every chance to survive the period of maximal cerebral commotion. He should be kept quiet by such drugs as chloral or intramuscular paraldehyde, should receive nourishing fluids by mouth unless coma is so deep as to cause the risk of aspiration, and should get all the nursing that will conserve his powers of recovery. There is no warrant at all for dehydration. The patient should not be restrained, and the confused, mildly resistive patient is better sitting in an armchair than being unnecessarily restrained in bed. It may not seem satisfactory merely to remain watchful in the acute stages of head injury, but the results justify the self-discipline which such an attitude requires.

TUBERCULOSIS IN WARTIME

One of the outstanding and now well-known features of vital statistics during the past 100 years has been the rapid rate of decline in mortality from tuberculosis. In 1851–5 the standardized death rate per million was 3,638 for all forms of tuberculosis, and 2,890 for respiratory tuberculosis. The corresponding rates for 1938 were 602 and 476, about one-sixth of their former level. Mortality from tuberculosis provides a sensitive index of prevailing economic and environmental conditions, and when war broke out thirty years ago the curve of mortality ceased to go down, and instead rose continuously from 1914 to 1918. The war over, down went tuberculosis mortality once more. A disquieting feature of the wartime rise was the increase in mortality among young adults, and the death rate among them remained above the pre-war level for some years after 1918, the rate of decline being more gradual for young women than for young men. In so far as one factor in tuberculosis mortality was concerned, it was thought that increased knowledge of nutrition and the better distribution of food would place this country in a better position in 1939 to stem a possible rising tide of mortality from tuberculosis. But the death rate from all forms went up. In 1939–42 the deaths from respiratory tuberculosis numbered 21,544, 23,660, 23,633, 20,983; and from other forms, 4,080, 4,484, 5,036, 4,560. Much of the higher mortality in 1940–1 could be attributed to the increased risk of dying to which tuberculous patients were exposed in the highly abnormal circumstances of these two years, and this probably explains the fall in mortality during 1942. A distinction must be made between increased mortality and increased incidence, but as there has been a rise in the incidence of tuberculosis during the war this will sooner or later be reflected in the mortality rate. No statistical data in age groups will be available for the whole country for some time. The effect of war on tuberculosis in London has been examined by Dr. W. Allen Daley and Mr. B. Benjamin, whose interesting analysis in these columns two years ago[1] was recently followed up by a further communication.[2] In the latter article these authors state that the number of new pulmonary cases per thousand in 1942 was half the 1941 rate for the age groups 0–4 and 5–14, but was 174% and 226% of the 1938 rate. For ages 15 and over the incidence of pulmonary tuberculosis rose in 1942, and the infection rate was 130% of the 1938 rate. In each of the above groups the death rate from pulmonary tuberculosis declined in 1942: the tuberculosis death rate among London children was only slightly higher than the peace-time level, but for adults it was 136% of the 1938 rate. The trend of tuberculosis in London has probably been affected by the movement of the population, especially by the return of evacuated children during the second half of the war; this increased the numbers at risk, but did not in proportion increase the incidence of the disease.

In our opening pages this week Dr. Percy Stocks and Dr. E. Lewis-Faning examine the increase of respiratory tuberculosis in England and Wales during the present war by relating the notifications of tuberculosis to the deaths among notified cases. In the past notification of tuberculosis has not always been a trustworthy guide to the actual incidence, but Stocks and Lewis-Faning are satisfied that in the recent pre-war years the trend of notification was consistent with that of mortality among notified cases. Each year of this war there has been an increase in the notification of respiratory tuberculosis: 42,500 new cases were reported in 1943, compared with 34,930 in 1939. The deaths of notified persons rose from 19,793 in 1939 to 21,480 in 1940, and then fell during the next three years to 18,150 in 1943. The introduction of mass radiography would tend temporarily to increase the notification rate, but the inclusion of persons who would normally escape notification can form only a part of the increased incidence, since there has been no corresponding decline, but rather a rise, in the deaths from tuberculosis of unnotified persons. The deterioration of the standard of notification may have been due, in part, to the widespread movement of population. Stocks and Lewis-Faning attribute a part of the rise in the deaths during 1940–1 to the effect of the severe conditions of that period on persons already notified: they estimate that 2,900 notified patients died during 1940–1 who would have normally survived until 1943. They also reckon that during 1940–1 respiratory tuberculosis killed off 1,500 notified and 1,000 unnotified persons who in normal times would not have died of this disease. Comparing the actual deaths among notified cases between 1940–3 with the deaths that would have been expected if these had been years of peace, the authors show that in these four years 6,000 deaths from respiratory tuberculosis may be directly attributed to war conditions, distributed thus: about 1,200 in 1940–1, about 1,900 in 1942, and about 3,000 in 1943.

RESEARCH INTO HEARING AND DEAFNESS

By arrangement with the Medical Research Council an otological research unit has been established at the National Hospital for Nervous Diseases, Queen Square, London, W.C.1. It is to be jointly maintained by the council and the hospital, as in the case of the existing neurological

[1] *British Medical Journal*, 1942, **2**, 417.

[2] *British Medical Journal*, 1943, **2**, 712.

research unit. The director is Dr. C. S. Hallpike, a whole-time member of the council's scientific staff, and aural physician to the hospital. The M.R.C. have also appointed three new committees to advise and assist them in promoting a general programme of research work into problems of deafness. These will deal with the following divisions of the subject: (*a*) medical and surgical problems of the causation, prevention, and treatment of deafness (chairman: Prof. H. Cohen, University of Liverpool); (*b*) electro-acoustical problems relating to the design and application of instruments used in the investigation and alleviation of deafness (chairman: Dr. W. G. Radley, Post Office Research Station); (*c*) problems relating to the educational treatment of deafness in children and adults (chairman: Prof. F. C. Bartlett, University of Cambridge).

AETIOLOGY OF NEONATAL DIARRHOEA

Outbreaks of diarrhoea among infants in maternity units have lately been causing concern both here and in America. It is probable that the disease is not a new entity but rather that it has been brought into prominence by more careful recording and investigation in recent years. Craig,[1] in 1936, described the clinical and pathological features of the infection as seen during the previous three and a half years in a maternity department in Edinburgh: mild dyspepsia, usually after the introduction of cow's milk into the feeds; listlessness; loss of appetite; weight progress slight or *nil*; frequent, watery, foul-smelling stools; some fever; then progressive loss of weight, and vomiting, sometimes of blood-streaked mucus. Ulcerative stomatitis was a common complication. Dehydration and toxaemia, with the infant drifting into a semi-comatose state, completed the downward course to death in 7 to 14 days. At necropsy hyperaemia and swelling of the intestinal mucosa with enlarged Peyer's patches and mesenteric glands was a constant finding in 11 fatal cases. Other workers have remarked on the paucity of pathological changes post mortem.

The aetiology of the condition is obscure. In connexion with the outbreaks described by Ormiston,[2] bacteriogists[3] in the E.P.H.L. Service made an exhaustive examination of the intestinal flora of affected cases and, for comparison, of normal infants. No intestinal pathogens, bacterial or protozoal, were isolated, and no evidence was found of any bacterial toxin—e.g., of staphylococcus or the Welch bacillus—likely to cause the diarrhoea. A preformed toxin in the breast-milk of feeding mothers due to enterotoxic staphylococci was also considered, but the infection is comparatively rare and usually mild in breast-fed babies, and *Staph. aureus* is present in the breast-milk of more than half the healthy mothers with healthy babies. It was concluded that the two likeliest causes were either (1) a systemic infection or a general metabolic disturbance leading secondarily to diarrhoea and vomiting, or (2) a primary virus infection of the alimentary tract. Virus infections of the gut are rare, but support for a virus aetiology in neonatal diarrhoea comes from Baltimore in a report from Light and Hodes,[4] who were able to reproduce a clinically similar condition in young calves by the nasal instillation of Seitz-filtered stools from affected babies in four different outbreaks. At least 8 c.cm. of the filtrate was required to produce a dysenteric type of diarrhoea after an incubation period of 2 to 5 days, and, as some of the material was almost certainly swallowed, the infection may have been primarily intestinal. In one series of tests the causative agent was passaged through twenty-nine calves, ten times with filtered material; in others two, four, and eight passages were successfully effected. The diarrhoea in the calf tended to persist, with an average duration of three weeks and a case mortality of 13%. Post-mortem examination showed hyperaemia of the intestinal mucosa with enlargement of the lymphoid tissue and of mesenteric glands, a picture remarkably similar to that described in infants by Craig. Cross-infection by contact occurred, giving rise to a mild form of the disease. Stools from four healthy calves and eight healthy infants failed to evoke any diarrhoea in inoculated calves, while other tests suggested that the condition was not calf scours or the virus infection pneumo-enteritis. Infected calves were resistant to subsequent inoculation, and a few experiments indicated that a specific antibody had developed in the sera of some of the affected infants. One curious finding was that the active principle of this calf diarrhoea was not destroyed by five minutes' boiling, though inactivated after ten minutes' boiling; similarly, it resisted heating at 70° C. for 1 hour, but not at 80° C. for 1 hour. These experiments will evoke much interest, and if corroborated they may give a clue to the analogous gastro-enteritis of older infants. Meanwhile, it must not be forgotten that severe diarrhoea and vomiting is a rarity in breast-fed babies, and every encouragement must be given to the establishment of breast-feeding in the maternity department and afterwards during the first six months of life.

1 *Lancet*, 1936, **2**, 68.
2 Ibid., 1941, **2**, 588.
3 Ibid., p. 590.
4 *Amer. J. publ. Hlth.*, 1943, **33**, 1451.

POISONING THE ENDOCRINE GLANDS

Research in endocrinology has usually followed three lines: the observation of disordered states, the effects of extracts, and the effects of extirpation. Fruitful though these methods have been, they have brought us but a little way towards an understanding of this most complex branch of medicine, and any new approach is of great interest. In the last few months we have seen the first-fruits of a pharmacological attack. The fascinating history of the discovery of thiouracil, beginning with observations of the poisonous effects of cabbage on the thyroid glands of rabbits, was told recently in this *Journal*.[1] Another example of the new approach is given by recent reports on the action of alloxan on the islets of Langerhans. Jacobs[2] in 1937 reported hypoglycaemia after the injection of alloxan into rabbits, but the observation seems to have remained unexplained and forgotten until its accidental rediscovery by Shaw Dunn[3 4] and his colleagues in 1943. The injection of this derivative of uric acid into rats and rabbits produces a transient rise in blood sugar, then a phase of hypoglycaemia which is sometimes fatal, and finally, in those animals which survive, necrosis of the islets of Langerhans and a condition resembling diabetes in man not only in its clinical signs but in its susceptibility to treatment with insulin. Shaw Dunn suggested that the hypoglycaemic phase was due to overstimulation of the islets and the ultimate diabetes to their death through exhaustion, but this hypothesis did not explain the first hyperglycaemic phase. The work, which has been amply confirmed by many workers, has been continued by Hughes, Ware, and Young,[5] who have found that islet changes were present within five minutes of the injection of alloxan. They failed to discover any histological evidence of a phase of over-activity, and found, moreover, that in well-fed animals the hypoglycaemia was comparatively mild. They succeeded in reproducing

1 *British Medical Journal*, 1943, **2**, 783.
2 *Proc. Soc. exp. Biol.*, 1937, **37**, 407.
3 *Lancet*, 1943, **1**, 484.
4 *J. Path. Bact.*, 1943, **55**, 245.
5 *Lancet*, 1944, **1**, 148.

exactly the blood sugar changes of their alloxan-poisoned rabbits by giving a dose of protamine-zinc-insulin equal to the insulin content of the rabbit's pancreas (10 units), and two doses of adrenaline, one with the insulin and one an hour later. This suggested a simpler explanation than Shaw Dunn's: that the first hyperglycaemia is due to the release of adrenaline, and the hypoglycaemia to the liberation from dying islets of their store of preformed insulin, in some such manner as the delay in the action of thiouracil may be due to the body's store of preformed thyroxine.

The importance of this work is threefold. In the first place we now have a simple method of inducing diabetes mellitus in experimental animals without recourse to surgery. In the second place the possibility has arisen that the cause of natural diabetes may be an error in metabolism resulting in the excessive production of alloxan. In the third place, once again within a few months, attention has been drawn to a substance which has a selectively poisonous action on an endocrine gland. A search for further endocrine poisons is due.

LEPROSY IN CHILDREN

During the last quarter of a century of renewed interest in leprosy it has been recognized more and more that the key to the problem of lowering the incidence of the disease lies in the prevention of the frequent infections in childhood. During the last seven years this aspect of the question has been closely studied at the Silver Jubilee Clinic, Madras, by Dr. R. G. Cochrane, who has summarized his investigations in three Madras University lectures (published by the Government Press, Madras). The lecturer quotes with approval the evidence given in the work on leprosy of Rogers and Muir to show that a large proportion of leprosy infections take place before the age of 15 years among children living in the same house as an open case of leprosy—that is, one discharging lepra bacilli from lesions of the skin and nose. The Madras study of 551 children showed that over 70% of the serious lepromatous cases, and of the incipient lesions of childhood to which Dr. Cochrane has called attention, were traced to contact with open cases of leprosy. In the mild resistant, and little-infective, neural type, including tuberculoid cases, such contact was traced in only 47%. Moreover, twice as many cases with multiple lesions were traced to house contact as those of milder infection with only one or two lesions. On classifying the cases of intrafamilial or house contacts, and extrafamilial or chance contacts, it was found that 90.4% of the incipient and 68% of the lepromatous cases were family house infections, against 55% of the mild neural cases. Dr. Cochrane therefore agrees with earlier writers in holding that the prevention of house contacts of healthy children with open infective types of leprosy will do more than any other single measure towards the control of leprosy. Family susceptibility is also discussed, and data are given to show that child infections were nearly as frequent (51.2%) among children living as co-tenants with non-relations as among those residing with blood relations (56%). Family susceptibility is thus regarded as of minor importance. In spite of recent improvements in the treatment of leprosy, prevention remains easier, as well as better, than cure. It is therefore of interest to recall that as early as 1897, on the advice of Ehlers of Copenhagen, Iceland prohibited children under 15 from living in any house containing an infective leper, with good results. The Madras work should hasten the time when this all-important preventive measure is far more generally adopted in leprosy-infected countries.

DISINFECTANTS

An aspect of hygiene which does not always get the attention it deserves is the choice of a disinfectant and its correct use. When the purpose concerned is really deodorant effect, as in urinals and water-closets, or fly-repellant action, as in refuse heaps, other considerations apply, and a bad choice need bring no disaster; but where it is really necessary to disinfect with certainty an efficient agent must be used, and used rightly. Excreta, linen, and various utensils, baths, and sometimes beds and floors, may require chemical disinfection for definite reasons. This sort of task is made easier by freedom from one limiting consideration which enters into the application of disinfectants to the skin, since it does not matter much if the substance used is toxic or irritant. The main requirement is germicidal efficiency, and secondary though important ones are availability and cheapness. Efficiency for some of these purposes means capacity to disinfect despite the presence of organic matter, in the form of faeces, mucoid secretions, or pus. Whole classes of disinfectant are excluded by their incapacity to act in such an environment, excellent as they may be under more favourable conditions: these include oxidizing agents such as potassium permanganate, and anything acting by the liberation of chlorine, though calcium hypochlorite if used very liberally may serve for some purposes. The class of disinfectant best adapted to this type of use is that obtained from coal-tar distillates, and includes phenol, cresols, and the tar acids of higher boiling-point and lower solubility in water which are the active constituents of many white and black fluids forming emulsions on dilution. Phenol is thoroughly reliable if used in adequate strength—usually 5%—even in the presence of plentiful organic matter. Lysol, which is a soapy solution of cresols, acts similarly in 2% solution—that is, its germicidal activity is greater than that of phenol and not greatly impaired by organic matter. The choice between these two, unless the solvent and cleansing action exerted by the soap in lysol is required, as in the disinfection of baths, is largely a question of price. During the war another consideration has arisen: phenol and certain cresols are the raw material of important plastics, and economy in their medical use was called for in consequence. It is reassuring to hear, as announced in this *Journal* recently, that the phenol supply position has now improved. White and black fluids have some advantages over phenol and cresol, and some drawbacks. They are less poisonous but more messy, more efficient in favourable conditions but much more susceptible to the quenching effect of organic matter: a fluid having a Rideal-Walker coefficient of 20 may have a Chick-Martin coefficient of only 4, which fairly reflects the difference between action in pure water and action under moderately unfavourable natural conditions. A good fluid of this type, used according to the directions of a responsible manufacturer, is nevertheless a valuable and reliable agent for many purposes, and certainly the best choice if lysol or phenol are unobtainable. Some of these fluids, owing to their freedom from caustic effect, may also be used if necessary on the skin or even, as has recently been pointed out in our correspondence columns, for the first-aid treatment of wounds.

The London School of Hygiene and Tropical Medicine (Keppel Street, Gower Street, W.C.) announces an address on "Teaching and Practice in Preventive Medicine" to be given on Friday, June 2, at 3.30 p.m., by Dr. J. M. Mackintosh, recently appointed Professor of Public Health in the University of London. Lord Woolton will take the chair.

A NOTE ON THE VITAL STATISTICS OF ICELAND

BY

AGNES TELEKY, Dr. Rer. Pol.

For obvious reasons the vital statistics of Iceland have a more direct interest for English and American readers now than they would have had five years ago, and, on the suggestion of Prof. Greenwood, I have brought together some facts which are worthy of consideration.

Nearly 20 years ago Greenwood (*J. roy: stat. Soc.*, 1924, **87**, 493) made a detailed comparison of the rates of mortality in England and Wales and Sweden for ages from 15 years upwards, supplementing this by a reference to earlier years of life. This is the story. A century ago males in Sweden died at lower rates than males in England at all ages under 35 and at higher rates at older ages. Females at all ages died at higher rates in England and Wales. This state of affairs gradually changed. By the beginning of the twentieth century the inhabitants of England and Wales had, after infancy and down to early adult life (about age 30 in males and 35 in females), much lower rates of mortality than Sweden, and at later adult ages much higher rates of mortality. This contrast of advantage in later childhood and earlier adult life with disadvantage in later adult life has been thought to characterize industrialized States as compared with agricultural States *at the same level of civilization*, because a roughly similar contrast emerges as between urban and rural districts of England and Wales.

Greenwood's paper brought the story down to the last generation. The other Scandinavian countries showed a roughly similar state of affairs. Although, of course, these countries have developed some industries, they may still be considered "agricultural"—if we extend the term agricultural to cover sea-faring occupations—and Iceland belongs to the same group both racially and industrially. In the last generation there has been a change. To bring this out I have compared the rates of mortality of England and Wales, Sweden, and Iceland for the years 1911 and 1933. As the population of Iceland is very small the rates here are based upon the quinquennia of which 1911 and 1933 are the central years. The results are shown in Table I and, as percentages of the corresponding English rates, in Table II. In the last generation Iceland and Sweden had a similar relation to England and Wales: the unfavourable mortality in adolescence and young manhood is somewhat accentuated in Iceland, partly because of the greater chance of death from sea risks in a population so largely dependent on the sea for a livelihood, partly perhaps a mere chance fluctuation.

In 1933 Iceland had lost something of her advantage in early childhood, but in later ages was in much the same relative position as a generation earlier. Except in the first five years of life and at those later ages in which Sweden had, and retains, a considerable advantage over England and Wales, the change between 1911 and 1933 has been much in favour of Sweden. Only in the age group 20–25 is the mortality rate in Sweden appreciably higher than in England and Wales; in the age group 5–10 the Swedish rates are more than 30% better than those of England and Wales. As the industrialization of Sweden has presumably continued, the comparison is not flattering to English rates, and may suggest subjects for inquiry. Iceland, we have seen, can be regarded as bearing the same relation to England and Wales now as Sweden had a generation ago.

TABLE I.—*Death Rates in 1911 and 1933*

Ages	1911						1933					
	Males			Females			Males			Females		
	Engl. & W.	Sweden	Iceland	Engl. & W.	Sweden	Iceland	Engl. & W.	Sweden	Iceland	Engl. & W.	Sweden	Iceland
0–1	1,612	843	885	1,309	668	721	735	588	533	559	435	413
0–5	473	249	268	401	207	214	199	144	152	158	110	135
5–	35	34	34	34	34	40	23	15	24	21	13	16
10–	20	27	22	21	28	35	15	13	19	14	13	18
15–	30	45	62	27	43	51	26	24	36	23	24	32
20–	39	64	94	32	49	66	33	36	68	29	32	61
25–	50	59	100	41	56	63	35	35	66	32	33	55
35–	81	68	107	66	68	70	57	45	63	46	40	57
45–	147	109	152	114	86	93	117	79	110	83	72	73
55–	296	199	272	230	155	180	237	163	171	173	148	143
65–	634	440	546	509	371	405	567	433	435	440	380	317
75–	1,357	1,066	1,199	1,164	979	1,003	1,394	1,047	1,076	1,144	961	820
85+	2,707	2,412	2,844	2,327	2,301	2,558	2,865	2,558	1,913	2,594	2,356	1,978

TABLE II.—*Death Rates of Sweden and Iceland expressed as Percentages of Those of England and Wales for 1911 and 1933*

Ages	1911				1933			
	Males		Females		Males		Females	
	Sweden	Iceland	Sweden	Iceland	Sweden	Iceland	Sweden	Iceland
0–1	52	55	51	55	80	73	78	74
0–5	53	57	52	53	72	76	70	85
5–	97	97	100	118	65	104	62	76
10–	135	110	133	167	87	127	93	129
15–	150	207	159	189	92	138	104	139
20–	164	241	153	206	109	206	110	210
25–	118	200	137	154	100	189	103	172
35–	84	132	103	106	79	170	87	124
45–	74	103	75	82	68	94	87	88
55–	67	92	67	78	69	72	86	83
65–	69	86	73	80	76	77	86	72
75–	79	88	84	86	75	77	84	72
85+	89	105	99	110	89	67	91	76

The effect of the war on the distribution of doctors in the United States has been the subject of a report by Drs. Perrott and Davis, and this was discussed in the *Journal of the American Medical Association* of Jan. 15. The survey reveals that the war has already withdrawn something like one-third of the active practitioners, the number of civilian doctors having fallen precipitously—from more than 120,000 on Jan. 1, 1942, to about 85,000 at the end of 1943. Concurrently the recruitment of civilian doctors has diminished greatly and the armed Services expect to take 80% of all new medical graduates. During the past twenty years there has been a trend for the States rich in medical man-power to become richer and for the States poor in medical man-power to become poorer. The analysis made by these officers of the U.S. Public Health Service, says the *J.A.M.A.*, serves to indicate certain aspects of the distribution of physicians to which attention may well be directed in post-war planning for medical services.

A NATIONAL WATER POLICY

Proposals for ensuring that all reasonable needs for water by householders, industry, and agriculture can in future be met, and met speedily and without avoidable waste, are made in a White Paper* presented to Parliament on April 18 by the Minister of Health, the Minister of Agriculture and Fisheries, and the Secretary of State for Scotland. "There is in this country ample water for all needs. The problem is not one of total resources but of organization and distribution." The object of the Government's proposals is therefore the shaping of a national water policy which will ensure a planned and economical use of the resources of the country and efficient administration of supply services. Some of the main proposals are outlined below:

The Health Ministers, whose powers are at present vague and ill defined, to be given the express statutory duty of promoting the provision of adequate water supplies and the conservation of water resources.

Central planning of water policy to be the function of the Health Ministers; to be based on comprehensive information, systematically collected and assessed, regarding water resources and needs; and to be applied by a simplified system of Ministerial orders. Interested parties to have full opportunity to put their views before the Minister; Orders on certain matters to be subject to review by Parliament by reason of their intrinsic importance or because of their effect on the interests of the general public or of individuals.

The Government's Central Advisory Water Committee to be reconstituted as a statutory body. It will advise not only on matters referred to it by any Government Department but also on its own initiative on any question within its ambit. A somewhat similar body to be set up for Scotland.

Surveys of the efficiency of water supply services to be carried out regularly by expert central staffs. The general framework of existing local organization to be retained, but powers of the Minister of Health to be strengthened, and amalgamation of undertakings to be encouraged and, if necessary, enforced to secure efficiency and economy. Special steps to be taken to protect water resources, especially underground water, against misuse, waste, and pollution.

Provision of Exchequer grants totalling £15,000,000 for England and Wales, and £6,375,000 for Scotland, for extension of piped water supplies and sewerage in rural areas.

This programme means new legislation. In advance of general legislation, a Bill is to be presented to Parliament this session authorizing the grants for water supply and sewerage in rural areas as part of the general reconstruction programme. While the problem in Scotland is broadly similar to that in England and Wales, account must be taken of differences in geography, local government structure, law, and water supply organization in the two countries. The Government's proposals, as affecting the Scottish service, are described in a separate section of the White Paper.

SPECIAL RATIONS FOR INVALIDS

The Ministry of Food announces that, in accordance with the recommendations of the Food Rationing (Special Diets) Advisory Committee, the following special food allowances have been made for invalids and sick persons.

Priority Liquid Milk in Actinomycosis.—Patients suffering from actinomycosis may have two pints of priority liquid milk a day. This condition will fall in Class 1 (*a*) of the schedule of diseases. Medical certificates will be valid for a period of three months, and renewable for further three-monthly periods as in cases of tuberculosis.

Extra Meat in Hypoproteinaemia.—Three extra meat rations a week are now available in proven cases of hypoproteinaemia from any cause. Applications, supported by a detailed medical certificate, must be made to the local food office. The extra rations will be for an initial period of six months, renewable on production of a fresh medical certificate stating that the patient is still suffering from this condition.

Dried Bananas in Coeliac Disease.—The Red Cross and St. John War Organization is providing dried bananas, at the rate of three and a half pounds a week, free to patients suffering from coeliac disease. This is in addition to the extra meat already provided by the Ministry. Applications must be made to the local Food Office supported by detailed medical evidence, including the clinical data on which the diagnosis is based, unless such evidence has already been given with an application for extra meat. Supplies will be provided for three months, at the end of which time a fresh medical certificate will be required.

Household Milk Powder.—Two tins a week of household milk powder (dried skimmed milk powder) are now available against a medical certificate for persons suffering from steatorrhoea, gout, or infective hepatitis (catarrhal jaundice), toxic jaundice, and cirrhosis of the liver (but not obstructive jaundice). The certificate must give the clinical and biochemical data on which the diagnosis of steatorrhoea or gout is based. Applications should be made to the local Food Office. Supplies will be arranged for an initial period of three months, when a fresh certificate will be required.

* A National Water Policy, Cmd. 6515, H.M. Stationery Office, York House, Kingsway, W.C.2. (6d.; post free 7d.)

APPROVED NAMES OF DRUGS

The General Medical Council has approved the following names for substances produced by British manufacturers, in some instances under licence granted by the Comptroller-General of Patents, Designs, and Trade Marks. The question of including these in the *British Pharmacopoeia* is under consideration, and if that is done the intention is that the approved name shall become the official title. Recognition of an approved name does not imply that the substance will necessarily be admitted to the *Pharmacopoeia*.

Approved Names	Other Names
Desoxycortone acetate	△-4-pregnene-21-ol-3 : 20-dione acetate. Desoxycorticosterone acetate.
Dicoumarol	3:3'-methylene-bis-(4-hydroxycoumarin).
Dimethylstilbamidine	4:4'-diamidino-α:β-dimethylstilbene.
Pentamidine	Diamidinodiphenoxypentane.
Propamidine	Diamidinophenoxypropane.
Stilbamidine	Diaminostilbene.
Sulphadimethylpyrimidine	2-(4-aminobenzenesulphonylamine)-4 : 6-dimethylpyrimidine. Sulphamezathine.
Thiomersalate	Sodium ethylmercurithiosalicylate. Merthiolate.

Medico-Legal

A "CURE" FOR THE DRINK HABIT

On March 2 at Bow Street Police Court, before Mr. McKenna, the Pharmaceutical Society of Great Britain prosecuted F. Cavendish-Longman, Ltd., publishers, trading as L. E. Venn, under the Pharmacy and Medicines Act, 1941, for selling an article recommended as a medicine without disclosing on the label the composition of the substance. Mr. R. A. Robinson was counsel for the prosecution and Mr. Du Cann was counsel for the defence. The plea was not guilty.

Mr. Robinson stated that the defendants advertised and sold a substance in powder form recommended as a cure for the drink habit. The public were invited by advertisement to apply for particulars and a free sample. An inspector employed by the Pharmaceutical Society replied to the advertisement and received a circular letter, booklet, and other advertising matter. In the booklet and other publications the dangers of alcoholism were stressed, and medical authorities were quoted for the statement that the drink habit led to serious diseases of the liver, kidneys, heart, and other organs. Later, further circulars were received by the inspector, who then sent 30s. to the defendants, from whom he received fifty powders, unlabelled. The directions were to take a powder with meals three times daily. The powders had been analysed and found to contain in each powder about 2 gr. of potassium bromide and about 5 gr. of lactose. Counsel contended that alcoholism was an infirmity within the meaning of the Act and that the drink cure was also recommended as a preventive of the various diseases to which excessive drinking was said to lead. The advertising matter included statements that the powders could be administered to the drink addict, without his knowledge, in beer, spirits, or tea, and that a distaste for alcoholic drinks would result. The inspector had not given defendants any particulars beyond his name and address, so it could not be argued that the case came within the exemption allowed by the Act in favour of treatments prescribed by reference to the needs of a particular person.

Mr. Du Cann claimed that the advertisements did not recommend the substance as a medicine within the meaning of the Act, and that alcoholism was not an infirmity or ailment. Further, that the treatment was designed to meet the needs of particular persons. The company had now altered the labels and was now declaring the composition of the powders on the label.

The magistrate ruled against Mr. Du Cann, and found as a fact that alcoholism was an infirmity for the treatment of which the cure was recommended. He imposed a fine of £2 with £5 costs to the prosecution.

Nova et Vetera

FOREIGN BROTHERS OF THE BARBER-SURGEONS

Sydney Young, in the *Annals of the Barber-Surgeons' Company*, says of the foreign brothers that, with very few exceptions, they were all of them practising surgeons who had *not* been apprenticed to freemen of the Company. He also states that a very small number of pure barbers are entered on the records as foreign brothers, and hints that this may be due to errors of description on the part of the clerk who kept the books. Perhaps this is not true of every case, for on "April 17, 1599, Michaell Bullocke complayneth of William Webbe forren brother for workeing with Henrye Needeham being not ceassed with him and for grindeinge of raseres." A surgical foreign brother would hardly have submitted to grinding razors even at so early a date as this. And in the articles of 1555 it is ordained that "no fforyner being no ffreeman shall . . . to make cleane teethe, to shave poll or washe a bearde or to tryme any man but within the Lybertye where he dwelleth." This last note confirms Young's conclusions that nearly all foreign brothers had not been apprenticed to freemen of the Company. Two other references to foreign barbers occur in 1606 and 1635. In the early years of the Company's history the numbers of foreign brothers seem to have been small. Thus, in 1578 a levy, in answer to a precept by the Lord Mayor, was made by the Company on 90 freemen and upon 10 "foreins." But by the opening years of the eighteenth century there was a large increase in the numbers. This was probably due in part to the influx of foreign surgeons which occurred with the revocation of the Edict of Nantes in 1685 and with the Declaration of Indulgence in 1687

The By-laws of 1606 contain among other details the oath of a foreign surgeon. In 1610 James Blackburne was examined and found "fitt and alloued to practize (in that chirurgicall parte of surgerye touching the generatyve partes of women and bringing them to bedd in their dangerous and difficult labours)." He was therefore "sworne and admitted a fforayne brother." The apprentice books of the Company at Barbers' Hall date from 1658. The earlier volumes contain practically no reference to foreign brothers; but as said earlier there are numerous mentions of this class of practitioner from 1700 to 1745. If a surgeon who had not served his apprenticeship to a freeman of the Company wished to practise within the Company's jurisdiction (City of London and circuit of seven miles round) he had either to join the Company as a foreign brother or, in theory at least, start again from the beginning by being bound apprentice to a freeman. This would have involved a delay of at least seven years. On admission as foreign brothers these men paid a fine, seven guineas was the usual amount, and had to satisfy the court, by the production of their indentures to country surgeons, that they had duly served an apprenticeship of seven years; they had also to undergo an examination by the Company's examiners.

Very occasionally a man was recommended by some person of quality and then the court dispensed with the production of indentures. All sea surgeons were foreign brothers; and Young says that some country surgeons became foreign brothers for the sake of the extra status conferred by possession of a diploma from Barber-Surgeons' Hall. The first really well known surgeon to become a foreign brother of whom I have knowledge is Paul Buissière, elected Aug. 20, 1691. All that is known of him is recorded by the late George Peachey in his excellent *Memoir of William and John Hunter*. From now on we find that some of these foreign brothers purchased their freedom, and so we often meet with cases on the books where an apprentice was bound to So-and-so, surgeon and foreign brother. (But in this connexion it is to be noted that Young states that in 1614, when a "foreigner" was admitted to the livery he paid £5 for yeomanry and £5 for livery fines in one payment. Young had found it difficult to determine what the exact status of the foreign brother really was. I am inclined to believe that it varied with the times.)

I suppose that the best-known foreign brother is John Ranby, surgeon to St. Thomas's Hospital and serjeant-surgeon to George II. He was present at Dettingen and is generally supposed to be the surgeon mentioned by Fielding in *Tom Jones*. Ranby was the first master of the Company of Surgeons after the dissolution in 1745. Among his pupils was Sir Caesar Hawkins, but Hawkins was not bound apprentice at the Hall as he had already served his time with his father, Mr. Caesar Hawkins, of Ludlow, Salop. He obtained the freedom by purchase and was not a foreign brother. Another well-known foreign brother was David Middleton of St. George's and Surgeon-General to the Army. Of foreigners I may record the names of Figuel, Chovet, and Lamarque, all of whom were engaged in the teaching of anatomy in London in the early years of the eighteenth century.

R. R. J.

Correspondence

Blood Cultures in Staphylococcal Septicaemia

SIR,—With the advent of penicillin there has come an increased interest in the treatment of staphylococcal septicaemia. In the *Journal* of April 15 four cases were reported with two deaths; in the same symposium were three cases of acute osteomyelitis with positive blood cultures—all recovered. In none of these cases, apparently, had repeated quantitative blood cultures been done, so that there is no record available of the severity of the blood-stream infection.

At a recent meeting of the Clinical Section of the R.S.M. similar cases were reported from St. Mary's Hospital without any quantitative blood-culture estimations. All these cases had been treated with penicillin. Valentine and Butler (*Lancet*, 1943, **1**, 194), in reporting 29 consecutive cases of staphylococcal septicaemia, showed that in 9 fulminating cases the colony counts rose to 500–1,000 per c.cm. of blood. All died. In the next less severe group the counts were above 30 and rose to over 100 in the fatal cases; 3 patients survived out of 8. In the last group (12 cases) the colony counts never rose above 20; all lived except one patient. Similar figures have been reported by McClellan and Goldbloom from Canada (*Canad. med. Ass. J.*, 1942, **146**, 136). A good many of the cases in the former paper were treated before the introduction of sulphathiazole. Since that paper was written I have had three patients who recovered whose colony counts rose to 95, 45, and 37 per c.cm. respectively; they all had intensive treatment with sulphathiazole.

It is apparent from these figures that staphylococcal blood-stream infection is not always a fatal condition, but that it rapidly becomes so if the blood culture rises to 100 or more colonies per c.cm. of blood. In order to show that penicillin cures cases of staphylococcal septicaemia it is not enough to state that the blood culture was positive and then became negative. It must be shown that patients recover whose blood cultures have reached the high figures already quoted above. This has been done in a few cases, but I should urge those who now have the opportunity to use penicillin for staphylococcal septicaemia to prove or disprove this important fact. In my opinion no case of staphylococcal septicaemia is accurately recorded unless the results of repeated quantitative blood cultures are also given.—I am, etc.,

The London Hospital, E. E. C. B. BUTLER.

Tuberculin Jelly in Patch Testing

SIR,—Referring to the memorandum by Dr. Donald Paterson in your issue of April 15 on the use of tuberculin jelly in patch testing, this method as introduced and applied extensively by Prof. S. Monrad of Copenhagen (1936), and his jelly and its use were described by K. A. Jensen in *Tubercle* (1937).

As a direct result of Monrad's work, I have during the past two years been preparing a similar jelly for use in the Welsh National Memorial Association, and have also supplied it for tests in the military Forces and for a complete survey of the school-children of Radnorshire by Dr. T. E. Jones Davies, M.O.H. At present it is being used in still more extensive school surveys in Wales.

My original formula followed that of Monrad, but has since been substantially altered, and is still under minor alteration. It is prepared from purified tuberculin, at a final strength from two or three times that of standard old tuberculin, and has given results slightly higher than those of Mantoux tests, 1:1,000, in the same subjects. Our medical officers report the positive reactions as being stronger and more easily read than those produced by any of the commercial patch-test materials.—I am, etc.,

Department of Tuberculosis, Welsh National School of Medicine, Cardiff. W. H. TYTLER.

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Status Lymphaticus

SIR,—I write in hope of enlightenment from pathologists. Is not Dr. R. G. Cooke perpetuating a medical myth when he ascribes sudden death to status lymphaticus? (April 1, p. 457). Even if the condition does in fact exist and could be recognized by the criteria he mentions, are these criteria satisfied by the post-mortem results given? It seems that in the case he describes there were abnormalities which might provide bases for more probable explanations of the fatality.

The highly accurate work of Hammar and Boyd (confirmed by others) appears to dispose of the belief that the "persistent thymus" is an abnormality. These investigators have stated that there are no significant gross anatomical differences between the thymic and lymphatic tissues of persons who died suddenly from unknown causes and those of people said to have status lymphaticus.

My special interest lies in the fact that the lymphatic state has been held to be associated with emotional instability. In the past assertions little short of ridiculous have been made in this connexion because the studies have neglected the precaution of investigation of control material.—I am, etc.,

G. R. PEBERDY,
Major, R.A.M.C.

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Tonsillectomy in Children

SIR,—I feel that I must contradict a remark at the end of Mr. T. B. Layton's letter (March 11, p. 372). He says: ". . . no such administration has as yet been set up which will give that minimum of a quarter of an hour between the parent upon whom the responsibility for decision rests and the surgeon in whose hands the responsibility for advising the operation is finally put." He is writing about tonsillectomy in children. I should like to describe a system at present working, and which, I may add, appears to provide more than "that minimum" required by Mr. Layton.

All cases reported to the school medical department, whether by school medical officers, private doctors, or parents, as possibly requiring an operation have their names and addresses, together with the doctor's letter, forwarded to the hospital where the ear, nose, and throat work is carried out. These names are forwarded to the department concerned and the surgeon sends for a group of such a size that he can give personal attention to each one. The children are sent for, it being a rule that they bring parent or guardian with them. Sessions last from 2 to 2½ hours, and the number of new cases sent for is usually eight or ten. What the mother complains of, the child's history, and results of examination are noted, and it is decided whether tonsils and adenoids should be removed, or adenoids only, or whether the case should be kept under observation, or requires other treatment. In a large number of catarrhal children advice is given on general health, diet, and hygiene. If the surgeon wishes to see the children again before or after operation, as is often the case, their names are put down for a definite date any time within six months ahead, and when the time comes they are sent for, as before, with parent. In a small percentage of cases the surgeon has before him the notes of children whom he has already been treating from infancy at a welfare centre, whence these notes follow them to the school clinic at the age of 5. I cannot describe the actual work better than by quoting from the annual report I had from the surgeon for 1943:

"Of 188 cases sent up as new cases, 113 have had operations for tonsils and/or adenoids, in a good many cases only for the latter. This means that in 75 cases operation has been avoided or, for good reason, postponed. The object has been to keep in touch with the patients by consultations with their parents and doctors. The number of visits has been 231 for the 188 patients; the difference is accounted for by keeping in touch with those in whom advice has been really needed rather than active treatment, and the number is considerable.

". . . At the voluntary welfare clinic is held an ear, nose, and throat session, at which children from birth to school age are seen. Notes on health, diet, and treatment are kept, and, most important of all, on advice given. These notes follow these particular children to the school clinic; the personal element is increased by the parents knowing the doctor and what he is aiming at. . . . In the treatment of these slightly subnormal children the personal effort made over a long period by parent and doctor, helped by a child who knows the doctor and likes the clinic, is of far more importance than isolated visits and operations."

The actual working of the system has been by weekly sessions, and it has been found in practice that approximately three clinical sessions to one operative session is satisfactory. I feel that this compares very favourably with the consideration that these children would have had in private practice.—I am, etc.,

IAN MACKAY,
Chester. County Medical Officer of Health, Cheshire.

Chewing-gum or Polypus?

SIR,—About a year ago a male patient, just before reporting to a medical board for National Service, was referred to me as a probable gastric ulcer. His symptoms were vague and physical examination revealed nothing abnormal. The *x*-ray report stated that there was a persistent filling defect in the pre-pyloric region, the diagnosis being a pre-pyloric polypus. I was about to write a medical report to the board to this effect when a "friend" of the patient, by an indirect route, gave me the "low-down" on the case. I received information that the patient had secreted chewing gum in his teeth, which was dislodged by the tongue as he swallowed the bismuth meal. This seemed to be a possible explanation of the filling defect, and a control *x*-ray a few days later was quite normal. Either the patient had failed to replenish his supply of gum or, if a pledget had been swallowed, it had successfully negotiated the pylorus. Anyway, I was then able to give a report—to the disappointment of the patient—that no gastric abnormality was evident.

Having recently encountered a similar case, it seems that this method of confusing the radiologist, and thereby the surgeon, may be more familiar to certain sections of the public than to the medical profession.—I am, etc.

London, W.1. MCNEILL LOVE.

Teaching of Anaesthetics

SIR,—I venture to suggest that much of the difficulty of teaching anaesthetics to-day would be largely eliminated if only more consideration could be given to the following:

Modern methods, rightly demanded by patient and surgeon, do tend to give undue prominence to the employment of elaborate apparatus. We all know the advantages and disadvantages of the gases and methods that require apparatus. The fact remains, however, that a large number of anaesthetics are, and probably always will be, given by medical men who, administering only occasionally, do not wish to buy expensive machines. Again, under war conditions, machines may be unobtainable or out of repair or, again, may be of a type with which they are unfamiliar. What *does* so often appear to be relegated to the background is the equally, and in many cases more, important aspect of modern anaesthesia—i.e., the psychological approach of the anaesthetist to his patient—in other words, the art and practice of suitable premedication. How to employ this in its widest aspect should surely be instilled into every student, undergraduate, or postgraduate before any type of anaesthetic mask is ever placed in his hands. The drugs, syringes, etc., necessary for premedication can be easily obtained and kept in the house of every medical man without the worry entailed over maintenance and condition of only occasionally used apparatus.

It is generally agreed that a smooth induction of anaesthesia in a patient from whom all apprehension has been removed makes for smooth maintenance and smooth recovery, and if we could secure this one feature of modern anaesthesia for *every* patient who has to submit to an operation we should have achieved something more than worth while. These benefits can be obtained, at least to a great extent, irrespective of what type of anaesthesia is going to be employed. Even if intravenous technique be ruled out, a well-medicated patient need not, and should not, suffer any greater discomfort during a correct induction of ethyl-chloride–ether sequence, or

CE–ether sequence, than he would if induced, for example, by N_2O–oxygen or cyclopropane.

It has been suggested that the surgeon might object to the employment of such "antiquated" methods; the patient's recovery might be delayed, and all the other usual condemnations. Now, Sir, on any large hospital operating list there are almost always some patients who could not honestly be said to be harmed by the correct administration of ether or CE mixture for 5 to 10 minutes. It is the induction period which gives the greatest difficulty to students. Once they have mastered the art of induction the principles of maintenance by the use of ether or CE mixture can be rapidly explained, and then, if the welfare of the patient demands it, a change-over to other methods of maintenance can be effected without difficulty by the instructing anaesthetist. For the pupil: "first things first."

I suggest that until, if ever, all anaesthetics are administered by the whole-time specialist action on these lines would grant the benefits of modern methods to *every* patient, and would enable every medical man to give an anaesthetic when suddenly called upon to do so under conditions where the employment of mechanical methods is impossible.

With regard to the attendance of students of anaesthetics at so-called minor operations in dental and out-patient departments, I think the importance of their so doing cannot be too greatly stressed, provided there is an experienced anaesthetist in attendance who is genuinely interested in securing their proficiency. It has been said that once proficiency in anaesthetizing at so-called minor operations has been achieved, the "majors" will look after themselves. It is the so-called minor cases that so often give difficulties. True judgment, that can only come from experience, is undoubtedly essential: for example, when the surgeon, during a big abdominal case, turns to his anaesthetist and says: "I have done the essential, will the patient stand another 10 minutes or so to make the ultimate condition even more hopeful?" With this last proviso in mind it might almost be said that anyone can give an anaesthetic for a gastrectomy: it frequently needs the master for dental or throat or other cases that so often come under that surely-to-be-condemned term "*minor* operation."—I am, etc.,

London, W.1. T. DE LACY WALKER.

The Oxford Vaporizer in India

SIR,—Much has been written about the Oxford vaporizer already, but when the apparatus was sent to the tropical climate of India there was some doubt whether it would be satisfactory. Therefore, the apparatus was tested, to see if it would give satisfactory results in the extreme climate of a plains station. During the summer the maximum temperatures recorded last year were almost 130° F., many Europeans dying of heat stroke, whereas in the winter the minimum temperatures are often between 40° and 50° F., blankets and eiderdowns being needed at night. It has proved to work perfectly, and have the same advantages as in an English climate. This is after several trials with many methods (see notes and observations below).

There is one point on which to dwell, and that is the "premedication" of the apparatus itself, which cannot be satisfactory unless the climate is considered. If the apparatus is to be used as it was intended—i.e., an Oxford vaporizer No. 1 giving out definite percentages of ether vapour—then the mercury of the thermometer on the machine has to be within the maximum and minimum limits (t2 and t1).

In cold weather hot water is poured into the water chamber about 20 minutes before the operation list begins, by which time the mercury of the thermometer will be within the required limits. If the apparatus is allowed to cool—i.e., the mercury being below the t1 limit—then the percentage of ether delivered to the patient will be about two-thirds of the percentage registered by the machine (confirmed by private correspondence with Prof. R. R. Macintosh). During the hot weather cold water is poured into the water chamber about 20 minutes before the operations begin. The cold water must be really cold. If the water is tepid then the mercury of the thermometer will remain above the maximum limit—namely, the t2 mark: in these circumstances the machine will act as an Oxford vaporizer No. 2 by delivering a 100% ether vapour. However, the patient's respirations drawing air through the ether chamber cause some heat loss and eventually the mercury will come down to the required limits necessary for the machine to act once again as an Oxford vaporizer No. 1.

Observations

(1) The machine functions satisfactorily in those parts of India in which cold water is available during the hot weather.

(2) Its own advantages are still present in the Indian climate:

(*a*) By giving out a constant concentration of ether owing to the constant temperature, the depth of anaesthesia tends to be more constant, the ether concentration being adjusted according to the depth of anaesthesia of the patient.

(*b*) By delivering heated ether the heat loss by the patient is less.

(*c*) The machine is a very mobile compact unit.

(*d*) Oxygen and/or carbon dioxide can be administered also through the apparatus.

(*e*) Nitrous oxide may be given with the machine, either solely for anaesthesia or for induction before ether anaesthesia.

(*f*) The patient is not likely to become cyanosed because there is always a constant supply of air in each inhalation.

(*g*) Endotracheal anaesthesia may be performed very satisfactorily either for E.N.T. or general operations.

(*h*) Post-operative pulmonary complications, especially in "bad operation risks," tend not to occur. Warmed ether helps to avoid such complications.

(*i*) The vaporizer is a simple apparatus, and a relatively inexperienced anaesthetist, with a little tuition, soon administers a satisfactory anaesthesia.

(*j*) The vaporizer gives excellent results during and after operations of long duration—e.g., 4 hours.

(*k*) There is no difficulty in obtaining a deep ether anaesthesia with perfect relaxation. Very small quantities of ether are used, and there is little ether in the atmosphere of the operating theatre.

(3) The Oxford vaporizer was used 245 times.

(4) Highest official temperature recorded in the newspapers was 117° F.

(5) Highest temperature in the operating theatre was 102° F.

(6) Longest time vaporizer was used for one operation—4 hours.

I have to thank Col. A. Moffat, I.A.M.C., and Lieut.-Col. A. K. Ashworth, R.A.M.C., for permission to publish this note.—I am, etc.,

P. H. BLACKISTON,
Captain, Indian Army Medical Corps.

Cerebral Malaria

SIR,—In your issue for Dec. 25, 1943, which I have recently received, I note with interest Surg. Lieut. Sneddon's description of a fatal case of cerebral malaria (p. 814). That the staff of the hospital were ignorant of this disease seems fairly obvious, but as cases of this nature are becoming increasingly more common away from tropical areas I think that some criticism of the treatment received by the patient is indicated. To a number of us in Australia who have served with the armed Forces in New Guinea the inadequate treatment given to severe cases of malaria by practitioners on the mainland ignorant of this disease has always been a great worry.

The pathology of cerebral malaria is known to most, and it is quite obvious, as Surg. Lieut. Sneddon points out, that the aggregate of infected red cells in the cerebral capillaries must be removed as soon as possible. The case described is classical enough, but in the case of a man who had been at sea and whose movements had to be cancelled, cerebral malaria should surely have headed the list of possibilities, and a blood film should be placed on the same priority as lumbar puncture. If Field's stain is employed this only takes a few minutes.

The initial treatment is correct enough, but quinine dihydrochloride can be administered without the medium of an intravenous saline infusion. It is preferable to give not more than 7½ gr. at a time in 10 c.cm. distilled water. The injection is given slowly (taking, say, 15 minutes) through a small needle. This must be repeated in 6 hours, at the rate of 30 gr. daily, if the patient is unable to take the drug by mouth. Surg. Lieut. Sneddon does not mention any quinine given by the oral route. Experience after the fall of Rabaul showed us that oral quinine, if it could be forced into the stomach when there was no vomiting, was almost as good as intravenous quinine in cases of cerebral malaria, but *more than 10 gr. daily are needed whatever route is employed.*

Of course quinine haemoglobinuria must be watched for, and if this occurs atebrin must be given with increased fluids, intravenous or otherwise. The hesitation displayed by some practitioners in giving adequate doses of quinine in severe cases of malignant tertian malaria for fear of precipitating blackwater fever is not warranted, at least in the south-west Pacific area. Whether or not this was the case in Surg. Lieut. Sneddon's patient is not disclosed. I feel certain that more quinine would have modified the prognosis of the case described.

My apology for this letter is that grave emergencies, whether medical or surgical, need a bold approach. The dictum of *primum non nocere* can well be replaced by "needs must when the devil drives."—I am, etc.,

Sydney, N.S.W. C. LELEU.

Treatment of Sciatica

SIR,—Sir Arthur Hurst, whose article on sciatica appeared on Dec. 18, 1943, could learn a great deal from a personal attack. His pronouncement that simple rest and confidence will easily cure in most cases is belied by medical experience. His "rational treatment" of rest for a month supported by pious hopes, then rest for another month supported by more pious hopes, and then, if no better, handing over to the neurosurgeon with, presumably, apology for pious hopes expressed, and eventual labelling as hysteric, hardly deserves to be termed "An Essay in Debunking," its conclusion providing rather the escape for the frustrated physician confessed by Hale White.

The great variety of treatments condemned by Sir Arthur Hurst implies not, as he believes, that they cure by suggestion but that they generally do not. Sciatica is a symptom, its causes are divergent and by no means completely understood. The patient in an exceptional case of my own experience, who had endured a plaster-of-Paris jacket, developed a sarcoma of the buttock five years later, followed by glandular sarcoma in the abdomen and the neck: repeated *x* rays had been entirely negative, but she never lost her pain. A premature pronouncement that the condition is a neurosis is likely to prove obstructive to thought by the doctor, with the temptation to accept an inactive course and to leave the patient to his fate. It is an unpleasant fate. Personal experience as a doctor and as a patient has taught me some points about sciatica.

1. Vibration is particularly unpleasant, whether it occurs in bus, train, or motor car, or merely from the heavy tread of a foot in the patient's room. This suggests that vibration may be an important causal factor where a position is long maintained (as in lorry or car driving with badly designed seat).

2. The patient tends to find a position that is comfortable and to maintain that position too exclusively for the good of his musculature; often the sciatica patient can only lie on one side or cannot lie on his back or prone with comfort. This pain-dodging factor continued over a long period of time with the general weakening of muscle from recumbency accounts for the "hysterical posture" of Sir Arthur Hurst's beliefs.

3. The emotional mind-disposition towards pain is *post hoc* not *propter hoc*. It is the natural consequence of unremitting pain. It is not the severity of pain but its tiresome prolongation which wears down the patient, a descent which is accentuated by the crippling effect of any upset of the pelvic skeletal structures, for it greatly handicaps any enterprise except reading. The patient is reduced to "listening in" to his pains. He finds himself compelled to shift his leg with tiresome frequency; even the pressure of one leg on the other is uncomfortable in acute cases. This is best relieved by a ring of bandaged wool between the knees, not by a pillow.

4. There are probably elements of muscular spasm, similar to the rectus protection of the acute appendix. Such a position as approximation of the soles of the feet is temporarily relieving, though difficult to maintain; no doubt it has a splinting effect. To hang the whole limb in a sheet to swing it just clear of its opposite member helps to give comfort.

5. General examination should be thorough; history carefully taken. Such factors as neoplasm, high uric acid in the blood, antral or prostatic infection, may be discovered. Blood count and blood sedimentation should be taken.

6. Muscles of back and limbs should be conserved as carefully as may be. The mattress should be firm and should not sag; the bed should be of adequate length.

Theoretically it is probable that pelvic and spinal strains, supported by inadequate muscles, are largely responsible for the origin of sciatica, and it is possible that vibration accentuates this ill effect. Prolonged sitting, especially in a badly constructed or hard motor seat, seems to give rise to trouble. The upright position has sciatica as one of its penalties. On general principle of justice it is unfair to condemn the sciatic soldier as a malingerer without complete examination and the utmost certainty. It is pertinent to ask what pathology precedes the herniated disk. Sciatica commonly goes as it comes; we know not why. An ostrich-like pretence that it's all quite simple will not help us.—I am, etc.,

GEORGE H. ALABASTER, M.D., F.R.C.S.Ed.
East London, C.P., South Africa.

Ketosis in Children

SIR,—The observation of Dr. F. B. P. Evans (March 25, p. 432) on the prevalence of ketosis in children and the letter from Dr. George Bray (April 8, p. 503) prompt me to request again the courtesy of your columns.

You were kind enough to publish a letter of mine in the *Journal* of May 1, 1943, in which I drew attention to the frequent occurrence of ketosis in children below the age of 6 suffering from asthma. Several doctors have written to me describing their success in treating asthma in young children by diminishing fat intake and prescribing glucose drinks and alkagen granules.

It is interesting that Dr. Evans has confirmed my observation that ketosis frequently follows a period of nervous excitement, and it is my experience that an attack may be prevented by giving a child who has been unduly excited or has had some nervous strain glucose drinks and an alkali. An asthmatic attack is one of many symptoms a child may show, the most common being, as Dr. Evans points out, simple pyrexia up to 104° F. with nothing to be found on careful examination except acetone bodies in the urine. Another sign almost always present is pale stools. They may precede the onset of pyrexia, abdominal pain, vomiting, or asthma.

Apart from the acute cases there are many children suffering from what might be called the state of subacidosis. The history obtained is that the child is fretful and discontented. "girning," and loss of appetite are conspicuous. Often the child is disobedient, bad tempered, and the mother expresses fear that her child is becoming spoilt. The youngster may be brought to the doctor as a suspected case of threadworms, or the doctor may be asked if enlarged tonsils and adenoids could be causing the trouble. The child usually resents examination, clinging to the mother and crying lustily. The urine with the sodium nitroprusside lost shows a definite blue colour but not the dark purple found in the acute cases. The change within a few days when a low-fat high-carbohydrate diet is given along with alkalis is most dramatic. As one parent put it: "Betty is a new child and her sweet little self again."

I cannot agree with Dr. Bray that these children are allergic to fats, etc. Such children can be given fats provided sufficient carbohydrates are taken at the same time—butter with jam, syrup, or honey. Fats need be excluded only during an acute attack, and it has never been my experience that acidosis occurs as soon as, say, bacon fat or milk is added to the diet. The relief he has obtained by injecting 3 to 5 m of adrenaline 1:1,000 is most likely due to its action in converting glycogen into glucose, in the same way as adrenaline may relieve hypoglycaemia due to an overdose of insulin.

War conditions may contribute to this upset in children, but my view is that it is one which in the past has been seldom recognized. How often in taking histories one is told that a patient as a child had a weak stomach, or bad frequent feverish attacks, or was difficult to "bring up." As Dr. Bray remarks, many of the sick headaches and migraine attacks of later life may start with acidosis in childhood. Here, I think, the psychological factor comes into prominence. A belief in the inferiority of some organ is instilled into the child as the result of frequent upsets, causing much alarm to the parents, which, in turn, is transmitted to the child. So in later life we have the asthmatic, the dyspeptic, the migrainous, etc.

May I suggest the routine examination of the child's urine for acetone? It can be done at the bedside if the doctor carries the following in his bag: 1-oz. bottle containing pulv. sodium nitroprusside 1 part, pulv. ammonium sulphate 20 parts;

1 oz. liq. ammon. fortis; 1 test-tube. To half a test-tube of urine add half-inch of mixed crystals, shake well. Add half-inch of liq. ammon. fortis and allow to stand. A characteristic purple permanganate colour results if acetone or aceto-acetic acid, or both, are present (Lawrence, *Diabetic Life*). Another method is described by Mr. John Ingram in the *Journal* of April 8 (p. 512).—I am, etc.,

Edinburgh. ALISTAIR G. CRUIKSHANK.

Parodontal Disease

SIR,—I am afraid I cannot agree with the opinions Dr. E. Wilfred Fish (Dec. 4, 1943, p. 726) expresses, and think it most dangerous to hold such views. The least osteitis round the apex of a tooth or periodontitis anywhere round a tooth is sufficient to cause fifth-nerve irritation, and may thereby damage vision in so many ways that hardly a day passes without my having patients' jaws *x*-rayed. After forty years of ophthalmic practice I can safely say that a large portion of my income has been created by conservative dentists.—I am, etc.,

Johannesburg. A. G. BRINTON.

First Aid according to St. John's

SIR,—My surprise at the tone of Dr. Lampard's letter (April 8, p. 505) is only surpassed by its contents, and the kindest thing that can be said is that the writer has failed to appraise the true value of the St. John textbook. He begins by wondering how many doctors use splints (referred to as "little bits of wood") for rendering first aid to a fractured humerus. The answer is surely every sufficiently energetic doctor who appreciates the need for the correct immobilization of fractures, not only to prevent further aggravation of the injury but also to lessen the effects of shock. The remainder of his queries all lend themselves to similar simple explanations, and reference to any standard textbook will serve to confirm the correctness and modernity of the St. John teachings.

The St. John textbook resembles other medical and surgical books in that it indicates the diagnosis and treatment of an "average" case, and on the assumption that the "average" appliances and remedies are available. Treatment may have to be modified according to the needs and circumstances of each particular case, and using the basic training as his guide, the experienced "first-aider" adjusts his treatment accordingly. The basic suggested treatment may not always be 100% efficient, but it is the best that can be carried out in the circumstances, and what more can one expect of other medical or surgical treatment?

The "first-aider" is taught to work within reasonable limits because he is a layman and not medically trained. The so-called "rigid limits" and teachings have the approval of a large number of our most eminent colleagues, many of whom are intimately associated with the Order of St. John and its works. They, moreover, produce uniformity, and prevent the letting loose of a horde of amateur doctors on the general public. Furthermore, the standard textbook is used throughout the British Empire and is printed in many languages. Its scope therefore embraces injuries which may not be common in this country, although encountered in the Dominions and Colonies. The very little extra trouble in learning about them is thus surely worth while.

There seems to be a general conception that there is a new technique in first aid as a result of "blitz" or war conditions, but, strangely enough, no one seems to know quite what it is. It is true we have learned an uncertain amount about crush syndrome, of more specific war injuries like phosphorus burns, of methods of transport depending upon the use of specialized apparatus which would not normally be available to "first-aiders," and we have also been issued with varying instructions regarding the treatment of burns. The fact remains, however, that basically first aid has not altered at all, and that the so-called modern improvements are merely a rehash of the teachings of the standard textbooks. Arrangements exist for an interchange of first-aid information between the Order of St. John and the various interested Ministries, and one may rest assured that those responsible for the first-aid policy of the Order are fully alive to modern conditions and needs.

Finally, if Dr. Lampard really wishes to transport the Knights of St. John from the days of the Saracens to those of General Montgomery, I would suggest that he sends his constructive criticisms and ideas to the appropriate authorities. I have no doubt they will receive appreciative consideration.—I am, etc.,

London, S.E.1. M. M. SCOTT.

SIR,—I was delighted to read Dr. Lampard's letter (April 8, p. 505), for first aid is so important, especially in wartime, that instead of being a matter of 8 lectures and an examination it should be a minor science—progressive and sound. Whereas most techniques have progressed during the last half-century St. John's has remained almost unchanged. The reason for this stagnation is that hospital surgeons have not been in the habit of inquiring: "Was the casualty in this condition when you found him?"

There is hardly a single treatment in the St. John textbook, with the exception of the famous treatment for bites from a rabid dog, which is satisfactory and which could not be improved upon. Even the large arm-sling and the standard method of lifting are inferior to some of the newer methods. I have interested myself in first aid ever since I took my first St. John class in 1912, and during this war I have spent 1 or 2 hours every evening with the 10 first-aid points, the 2 first-aid parties, and the Red Cross Detachment and the St. John Division over which I have control. The Red Cross and the St. John require lectures annually in the methods laid down in their textbooks in order that the members may gain certificates and be entitled to wear the prescribed uniform. Whenever I give these lectures I impress on the class that the methods I expound are for examination purposes only, and are not to be used on actual casualties. After the examination I and the class spend a few evenings revising the newer methods which common sense and experience have proved to be more satisfactory.—I am, etc.,

R. C. C. CLAY.

Shock Treatment of Mental Disorder

SIR,—May I, without giving offence, say that your question on page 537 of the issue of April 15 is nonsensical! If terms such as "material cells, tissues, or secretions," which are objectively derived, are mingled in one question with terms that are subjectively derived, such as "a sane outlook" you necessarily get a question that is unanswerable because of its form. The two sets of terms together do not make up a problem; they merely make nonsense. Sir Henry Bashford's attempts to state a relation between "cells" and "thinking" necessarily fail for exactly the same reason. No one who had traced for himself the derivation of his various convictions and ideas would attempt to state a relation in this form.—I am, etc.,

Liverpool. K. W. MONSARRAT.

Marriage and Parenthood

SIR,—Dr. Edward Griffith (April 15, p. 540) makes a praiseworthy plea for the profession to adopt a more enlightened attitude towards the many special problems of marriage. While I whole-heartedly agree with his main thesis, I feel that his approach to the question of contraception needs amendment.

Contraceptive advice may very rarely have to be given to a couple before the birth of their first child, but it should not be given under such circumstances with the readiness which Dr. Griffith's letter would seem to suggest. There are many reasons for urging that the aim of the newly married couple should be the immediate establishment of a family.

Completely satisfying coitus is a difficult art, while its achievement is a *sine qua non* of a successful marriage. The bride and groom can learn much from their respective parents, from their doctors, and from a very extensive literature (among which, incidentally, the doctor should be ready to guide them, for its quality is widely varied). But in the last analysis they must be guided by their instincts. The instincts are a fully adequate guide provided that they are given free rein. It is only when they are subdued and repressed that they fail. Even assuming the perfect contraceptive, which would offer no

physical interference whatsoever, the fact that a contraceptive is being used, the fact that coitus is being practised for some aim short of its full natural purpose, means that psychologically there are barriers to the full play of the instincts. The childless couple which copulates but avoids pregnancy copulates half-heartedly, and will probably never learn to do otherwise. Once the art of intercourse has been mastered, and once the couple has attained the fulfilment of actual reproduction, then the complication of a contraceptive can be introduced without fear of disharmony.

The change from the single state to the married state is a tremendous one, involving a mass of difficult psychological adjustments as well as physical ones. If a couple passes through this stage—which takes many months for its completion—and remains a unit of two, then a whole series of fresh adjustments are required when it becomes a unit of three. It is infinitely easier and happier if the first child arrives during the adjustment period, when it fits immediately into its parents' life. Couples which become completely adjusted as units of two tend to shirk the difficulty of further adjustment, and to postpone the establishing of a family—sometimes until it is too late.

The artificial production of sterility is comparatively easy. The removal of a natural sterility can be most difficult. I am constantly being grieved by my inability to help cases of sterility which have been long hidden and have come to light only when it is too late to hope to do much. The woman of 34 or so who has married, who has "cleverly" avoided pregnancy for five years, who has then spent five disappointed years seeking pregnancy and discovering that she is not fertile, and who then asks for help, is a much greater problem than she would have been had she discovered her sterility eight years earlier.

Against all these factors the excuses usually adduced for postponing the first child weigh very lightly indeed. Unless there is some pathological condition in one of the couple contraindicating parenthood, let us therefore, when asked for contraceptive advice by the newly married, attempt first with our best endeavours to readjust their sense of values and to persuade them to postpone, not the child but the Dutch cap. We shall do them a service which will be, eventually, deeply appreciated.—I am, etc.,

West Bromwich. D. SAKLATVALA.

Service Medicine

SIR,—Your correspondent of April 1 (p. 470) gives, in my opinion, a very one-sided and misleading view of medicine in the Forces. True it is that the civil front carries far heavier burdens, generally speaking, than the Services, and is worse off for doctors. But I have served for four years, under all conditions of medical work from M.I. room to hospital establishment, and including a tour over-seas, and have never found evidence of over-staffing. There was adequate work for all in attending to both out- and in-patient requirements; and your correspondent has not referred to the preventive aspects of Service medical duties, the continuous attention which must be given to sanitation and hygiene, particularly over-seas. Limitation of working hours has, in my experience, been due to efficient distribution of duties rather than to a superfluity of medical officers.

It is to be deprecated that such condemnatory remarks about one's brother-medical officers should have been presented for publication. In this respect I should say that it is not always possible in the Service to give every doctor, immediately at any rate, the type of work in which he is most experienced. I have definitely not met with cases of consultant positions held by men with inadequate qualifications. Even if a medical officer finds that he does not know enough to deal with a case himself, he has, in the R.A.F. anyway, always got ready access to specialist advice and full hospital facilities. Even over-seas this was always the case.

Your correspondent shows a complete antagonism to what he terms bureaucracy, but what I should term supervision and administration. For the efficient working of any organized medical service a certain amount of paper work is essential both at the time and for future reference, including permanent records. Such measures do not impede attention to the patient; rather do they ensure it. Without properly filled medical documents it would be impossible to keep a check on the patient at a later date.

So long as a Service doctor enjoys the commissioned rank to which his qualifications and subsequent experience make him entitled, there seems no reason why he should resent being subject to confidential reports, like any other officer. Such reports on a medical man pass through medical channels.

I have never found any difficulty in obtaining or exchanging equipment, except when bad communications or shortage of supplies caused delay. Local supplies of drugs were never unobtainable. Mobile squadrons carry a more than adequate quantity of instruments, etc.

Far from being in the most browbeaten and the least organized branch, I have found that the Service medical officer, however junior, wields considerable power, and if he is in any way gainsaid he can readily seek the aid of his seniors, even if the case amounts to a revision of existing policy. Your correspondent, of course, does not reveal in which medical service he is employed, and my answers to his statements are largely based on my experience in the R.A.F. I consider that the excellent attention, both in preventive and curative medicine, given to Service personnel is a perfect example of "the community ideal of service for others."—I am, etc.,

E. HOPE LAMB,
Squadron Leader, Royal Air Force.

Obituary

Dr. JOHN FREDERICK VENABLES died suddenly in London on March 31 at the age of 56. He was educated at Magdalen College School and Magdalen College, Oxford, and went on to Guy's Hospital for his clinical course. He graduated B.M., B.Ch. in 1913, proceeding D.M. in 1924. He served with the R.A.M.C. in Egypt during the last war, but was invalided home and became second in command of the Seale Hayne Military Hospital for functional nervous diseases. After the armistice Dr. Venables was in charge of a hospital for war neuroses under the Ministry of Pensions. In 1921 he went to join Sir Arthur Hurst again, as physician to the New Lodge Clinic at Ascot; when the clinic closed soon after the outbreak of the present war he rejoined the R.A.M.C., and reached the rank of temporary major. Increasingly frequent attacks of angina pectoris compelled him to resign his commission in June of last year, but in October he became a medical member of the first of the new pension tribunals.

The death occurred on April 8 at Thoralby, Wensleydale, of Dr. JOHN JAGGER PICKLES, fourth son of the late Dr. J. J. Pickles of Leeds. He was born in 1888 and graduated at Leeds University in 1912, serving in the last war and being wounded on the Somme. From 1919 to 1937 he was in practice in Leyburn, but retired in the latter year for reasons of ill-health. During the present war he pluckily returned to work, but finally broke down in health a year ago. He was a bachelor, and fond of country life and the natural history of the countryside. He joined the B.M.A. in 1919.

Dr. WILLIAM EDWARD BENNETT, for 50 years M.O.H. at Otley in Yorkshire, died on April 10 at Knaresborough, aged 84. A native of Otley he studied medicine at Leeds and took the Scottish triple qualification in 1886. During his early days as a general practitioner in Wharfedale Dr. Bennett used to make his rounds on horseback. He had an absorbing concern for the welfare of the town and everyone in it. It has been said of him that he was the very pattern of the family doctor, diligent in everything except sending in his bill; and if he had once had people under his care he never lost interest in their progress. When he retired from strenuous private practice at the age of 60 it was merely to take up fresh work; for the next ten years he spent six out of every twelve months at sea as a ship surgeon; on his return from winter voyages he attended the Women's and Children's Hospital at Leeds and also assisted at a Barnsley hospital. To celebrate his jubilee as medical officer for Otley, past and present members of the local council and officials made him a presentation in recognition of his valuable service, which had changed the town so much from what it was in 1887. In 1940, at the age of 80, Dr. Bennett enrolled in the E.M.S. and was passed as fit for duty and appointed to an emergency hospital.

The Rev. JOHN COOK TENNANT, M.D., who died in Fife last year, was a man of much versatility. Born at St. Andrews in 1860 he attended the Madras College and then took the M.A. degree and a full theological course at St. Andrews, and after being licensed by the Church of Scotland went to a charge in Australia. A complete change of attitude towards religion caused him to take up sheep farming, and a ranch became the centre of his activities for 18 years. Then at the age of 43 he returned to start life anew as a medical student in Edinburgh, graduating M.B., C.M. in 1908 and M.D. in 1910. He left Edinburgh for Melbourne and set up as a psychotherapist in Collins Street. In the last war he worked at various home military hospitals, mainly among cases of "shell-shock." After the war he became a ship surgeon. During the last 15 years of his life Dr. Tennant underwent a profound spiritual change, the agnosticism and critical views of his earlier years being replaced by a simple faith.

The following medical men have recently died abroad: Dr. HENRY GRAY BARBOUR, professor of pharmacology at McGill University in 1921–3 and afterwards at Yale, aged 57; Dr. LOUIS BLANCHARD WILSON, a notable pathologist and medical educationist of Rochester, Minnesota, aged 76; Col. ROY DENNIS, chief of the neuropsychiatry branch, U.S. Medical Department, aged 40, of coronary thrombosis; Dr. HANS WERNHER BÜHLER, ophthalmologist at Geneva; Dr. M. CHIFOLIAU, senior surgeon to the Hôpital Saint-Louis, Paris; and Geh.-Rat WALTHER KRUSE, bacteriologist and emeritus professor of hygiene at Bonn, Königsberg, and Leipzig, aged 79.

Universities and Colleges

UNIVERSITY OF GLASGOW

A graduation ceremony was held on April 15, when the following medical degrees were conferred:

M.D.—[1]J. H. Lawson, [2]Janet F. Morrison, [3]J. P. Currie, [3]A. M. Sutherland, W. L. Milligan.

The following prizes among others were awarded:
University Prize.—Bellahouston Medal: G. H. Bell.
Special Class Prize.—Surgery, Macleod Medal: J. B. Ritchie.

[1] With honours. [2] With high commendation. [3] With commendation.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

At a quarterly meeting of the Council held on April 13 with Sir Alfred Webb-Johnson, President, in the chair, the following elections were made to the Court of Examiners: Mr. Seymour Barling, re-elected for one year; Mr. Alan Perry, re-elected for two years; Mr. E. A. Crook, elected for three years. Brig. Ashley Daly and Dr. M. H. Jupe were elected Fellows under the Charter, which permits the Council to elect annually to the Fellowship, without examination, two members of twenty years' standing. The Jacksonian Prize for 1943 was not awarded on this occasion. The subject for the Jacksonian Prize for 1945 will be "Bone Grafting in Surgery: Its Indications, Methods, and Results." Votes of thanks were given to the President for the gift of a collection of engraved portraits, to Mr. G. H. Colt, F.R.C.S., for a mounted Brodie Medal, and to Mr. Richard C. Davis for a gift of money.

Diplomas in Child Health were granted, jointly with the Royal College of Physicians of London, to the following candidates:

T. J. Agius-Ferrante, Isobel C. Allardyce, Eveline A. Bishop M. Bojko-Ungar, Penuel M. E. Chitty, Norah H. C. Clarke, Sheila Cochrane, J. W. Fletcher, Margaret D. Giles, Janet D. Gimson, Irene D. M. F. C. Hastilow, E. Lewit, M. G. Philpott, Helen S. Standley, T. Stapleton, Pauline Wynne.

Three Hunterian Lectures will be given at the College (Lincoln's Inn Fields, W.C.) on Monday, Wednesday, and Friday, May 1, 3, and 5. All the lectures begin at 4 p.m. and are open to advanced students and medical practitioners.

ROYAL COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS

The following candidates, having satisfied the examiners, have been awarded the Diploma of the College:

Caroline D. Baugh, Marjorie Bryan, M. Dods, J. S. Hogg, E. C. Housden, D. Latto, Mary E. Long, Helen M. Mayer, Marjorie L. Penwill, J. R. F. Popplewell.

CONJOINT BOARD IN SCOTLAND

The following candidates, having passed the final examination, have been admitted L.R.C.P.Ed., L.R.C.S.Ed., and L.R.F.P.&S.Glas.:

M. H. S. El Amroussi, S. B. Ballantine, G. W. Barker, Doris E. N. Bleasby, S. Dalziel, R. F. McH. Dunlop, J. W. Edmondson, L. M. Gunasekara, D. Headley, A. M. Herman, R. Kean, D. Mintz, K. S. Mowatt, H. A. Munro, R. J. McClements, A. R. MacKinnon, D. Nathanson, A. C. Parnell, C. J. K. Piliso, K. A. Said, Abd El Monem El Sebelgi, L. I. Starling.

M. Balint, M.D.Budapest, a graduate of a recognized foreign University, was also admitted a licentiate.

The Services

The *London Gazette* has announced the appointment as M.B.E. (Military Division) of Temp. Surg. Lieut. D. K. T. Wallace, R.N.V.R., for outstanding bravery and devotion to duty in tending the wounded during an air raid.

Col. W. K. Morrison, D.S.O., late R.A.M.C., Major (Temp. Lieut.-Col.) T. F. Briggs, and Capt. J. G. Pyper, R.A.M.C., have been mentioned in dispatches in recognition of gallant and distinguished services in Malta.

The following have been mentioned in dispatches in recognition of gallant and distinguished services in the Middle East: Major-Gen. (Acting) W. H. Ogilvie; Brigs. (local) D. E. Bedford, G. MacDonald, and S. Smith, K.H.P.; Cols. (Temp.) R. Murphy, C. Popham, O.B.E., and A. E. Richmond, O.B.E.; Col. (Acting) T. S. Law; Majors (Temp. Lieut.-Cols.) P. Carney, M.C., J. B. George, J. S. Jeffrey, C. A. Levy, N. MacLeod, J. E. Measham, J. S. Miller, R. W. Scott, A. P. Trimble, and H. L. Wallace; Capt. (Temp. Major) (Acting Lieut.-Col.) J. Pyle, M.C.; Capts. (Temp. Majors) K. G. A. Barlow, M.B.E., A. Crerar, D.S.O., M.C., G. C. Dansey-Browning, W. S. Gale, A. G. R. Lowdon, J. D. MacLennan, H. A. Palmer, L. S. Rogers, M.B.E., J. Urquhart, and C. E. van Rooyen; Capt. (Acting Major) R. S. Turner; Capts. K. MacK. Bell, E. L. Farrow, R. Fletcher, S. G. McK. Francis, S. R. T. Headley, T. M. Lennox, A. D. Morgan, P. A. Petrides, B. W. Powell, J. W. T. Pretsell, M.C., K. Simon, J. W. Spence, W. W. Willson, and G. Wilson, R.A.M.C.; Capt. (Temp. Major) C. W. Greene, Capt. V. Parkash, Subadar M. Y. Shah, Jemadar S. P. Redkar, Cdr. (Assistant Surg., 1st Class) W. Bornshin, I.A.M.C.; Capt. H. Fine, R.C.A.M.C.

The *London Gazette* has announced the award of the D.S.C. to Temp. Surg. Lieut. E. O. Davies, R.N.V.R., for great courage and devotion to duty in caring for the wounded during landings at Salerno; and Temp. Surg. Lieut. J. A. Henderson, R.N.V.R., has been mentioned in dispatches for courage and skill in H.M.S. *Chanticleer* on convoy escort duty.

The Efficiency Decoration has been conferred upon the following officers of the Territorial Army: Col. J. Carver; Lieut.-Col. (Temp. Col.) J. T. McOuat, O.B.E.; Lieut.-Cols. F. A. Belam and T. A. S. Samuel, M.C.; Majors (Temp. Lieut.-Cols.) J. H. Dunn, J. B. S. Guy, W. A. Mackey, D. J. MacMyn, J. K. Steel, G. Sparrow, M.C., and G. D. Thompson, R.A.M.C.

The Order of the Red Star has been conferred upon Surg. Lieut. G. H. Murray, R.N.V.R., by the Presidium of the Supreme Council of the U.S.S.R. for services to the U.S.S.R.

The initials of Capt. (Temp. Major) A. G. R. Lowdon, R.A.M.C., are as now given and not as stated in the *London Gazette* of March 23, and in the *Journal* of April 1 (p. 475).

CASUALTIES IN THE MEDICAL SERVICES

Killed.—War Subs. Capt. J. B. Ashmore, R.A.M.C.
Prisoners of war.—Lieut. G. Blair; War Subs. Capts. F. E. Butterfield and C. D. Chilton, R.A.M.C.

Medical Notes in Parliament

Medical Officers at Military Prisons

Setting out on April 5 the progress made in implementing the recommendations concerning the Army, which were submitted by the Oliver Committee on Military Prisons and Detention Barracks, Sir JAMES GRIGG said that owing to the shortage of medical officers it was impossible at the present time to appoint a whole-time medical officer for each establishment. Steps had been taken to ensure that a medical officer was available at each establishment when required. At each of the five larger establishments one was attached for full-time duty. Sick quarters were now installed in all military prisons and detention barracks, except Aldershot. There the quarters should be completed shortly.

Investigation of War Diseases

Sir Arthur MacNalty, who is Editor-in-Chief of the Official Medical History of the War, informs Mr. Willink that selected hospitals are co-operating fully in an investigation which is proceeding concerning any changes in types of disease that may be occurring during the war as compared with a typical peace year, and that the Service Departments are obtaining medical data relative to the campaigns in all theatres of war. Statistics concerning infectious diseases are being furnished by the Registrar-General.

Germany's Chemical Industry

In the House of Lords on April 18 Lord VANSITTART asked the Government whether, in view of the paramount necessity for permanently preventing the manufacture of all explosives in Germany after the war, they would appoint a committee of scientists to prepare a practical and efficacious scheme, with particular regard to the control or elimination of Germany's nitrate and hydrogenation plants.

Lord HORDER, speaking as a doctor, said it was clear that the Nazis' long and devilish preparation for an all-out war included more things than killing human beings by explosives: it included preventing the cure of human beings who fell sick of disease. For a long time before the war the Nazis deliberately cut down to starvation-point the manufacture by other countries of chemical substances vital to the pursuit of medical science and treatment. He referred to two essential drugs. The first was suramin, which the Nazis—surely with their tongue in their cheek—called Germanin. They prevented countries other than their own from using it. It was made by Bayer as the result of a secret process, and was of great use in the treatment of sleeping sickness. Still more important was the synthetic drug called atebrin, the equivalent of quinine. This was also a Bayer product. Both the constitution and the mode of preparation were kept secret for a long time, and the supplies outside Germany were very strictly limited.

At the outbreak of war, of course, these supplies ceased. No doubt we relied on the natural product, quinine, obtainable in quite large amounts at that time from the Netherlands East Indies. When that supply failed us we were caught out very badly. To what degree we were caught out only those responsible for the health of the armed Forces and of our people in the Dominions and particularly in India, and for the treatment of hundreds of thousands of cases of malaria, really knew, and this in spite of the quite valiant efforts which our own big chemical industries had made to help us.

It was clear, therefore, that a full inquiry by expert chemists should be undertaken into the whole field of synthetic chemical industry in Germany. Then, in conjunction with our allies and political experts, some plan should be devised whereby the manufacture of explosives in Germany could be entirely prevented, and a strict lien over and control of essential drugs by Germany ended.

Lord CHERWELL, replying for the Government, agreed that if we could prevent Germany from making synthetic nitrates we could prevent her making war—in the present state of knowledge. Nitrogen, however, was the essential element in proteins, which were necessary for food. In a modern world we had very largely replaced the bacteria in the roots of certain plants capable of fixing nitrogen and putting it back into the soil by the synthetic fertilizer. The difficulty was that if we stopped Germany making synthetic nitrate or ammonia there would be difficulty in getting fertilizers for Central Europe. Every effort should be and was being made to find out if there was a way of circumventing this difficulty. The same applied to the question of hydrogenation. Lord Horder's statement that the Germans had got exclusive control of certain drugs, and that when these supplies were cut off we were left in a bad way, was perfectly true. That was the reverse side of the medal, and it implied that we ought to make sure that we had sources of these drugs rather than stop the Germans making them. These questions required study and consultation, and various committees had been considering them and had recommended that more scientists should be invited to join in their investigation. We could not decide these matters alone; we had first to form views of our own and then discuss them with our allies. The Government agreed that the time had come to extend the participation of scientists in these questions, and proposed to invite a greater number of professional scientists and experts to take part in the deliberations. The more questionable proposals also of supervising German research would not be forgotten.

Issue of Questionary and White Paper

On April 18 Sir E. GRAHAM-LITTLE asked the Minister of Health whether he had co-operated with the B.M.A. in the issue of a questionary to registered medical practitioners, otherwise than by supplying, without charge, copies of the White Paper to accompany it; what was the number of copies so supplied; at what cost and to what account was it debited; and whether he was consulted in the preparation of the questionary or the procedure of its distribution. Mr. WILLINK: It was, quite properly, never suggested that I should participate in any way in the preparation or issue of this questionary, which was entirely a matter for the B.M.A. With regard to the copies of the White Paper I decided that in view of the obvious importance of the Government's proposals to the individual doctor it would be helpful if I supplied a copy of it to all practitioners in this country and in the Forces. The Association kindly undertook the distribution of these copies for me and, as a matter of convenience, distributed them with their own questionary and other documents. A total of 51,200 copies was involved, at the approximate cost of £950, which will be borne on the vote of the Stationery Office.

Diphtheria Immunization and Notification

On April 18 Mr. ALFRED EDWARDS asked the Minister of Health what was his estimate of the number of children under 5 and between 5 and 15, who were inoculated against diphtheria down to the end of 1943; and if he would devise a method for removing from these records all children who reached 15 in 1940, 1941, and 1942. Mr. WILLINK said that the numbers of children inoculated against diphtheria in a given period under local authority arrangements were not estimates but actual figures supplied by the authorities of the numbers of children immunized in each six-monthly period. The totals of these figures from January, 1940, to December, 1943 (the last half-yearly returns being not yet quite complete) were approximately 1,680,000 children under 5, and 3,136,000 between 5 and 15 at the date of immunization. The suggestion in the last part of the question would be very laborious to carry out, and he did not feel justified in adopting it.

Medical News

Dr. T. L. Hardy will deliver the Croonian Lectures before the Royal College of Physicians of London on Tuesday, May 9, and Thursday, May 11, at 4 p.m. Subject: "Order and Disorder in the Large Intestine."

The mass miniature radiography unit which is being set up by the Leeds Corporation to aid the early detection of tuberculosis will have its headquarters in St. James's Hospital, where rooms and offices are now being prepared. When in full operation the unit, whose personnel consists of a medical director and assistant, organizing secretary, and a team of eight radiographers, marshailers, and clerks, will visit factories in Leeds and the West Riding.

The London Hospitals Street Collections Central Committee announces that Hospitals' Day will be held on Tuesday, May 2. Suggestions and offers of service will be gratefully welcomed by the chairman, Lord Luke, at 36, Kingsway, W.C.2.

Six illustrated lectures on the historical background to modern medicine will be given by Mr. Douglas Guthrie, F.R.C.S., at the School of Medicine, Surgeons' Hall, Edinburgh, on Mondays and Thursdays, May 8, 11, 15, 18, 22, and 25 at 4 p.m. each day. The course is open to all students and medical practitioners.

A meeting of the Association of Surgeons of Great Britain and Ireland will take place on Tuesday, May 9, at the Royal College of Surgeons, Lincoln's Inn Fields, London, W.C. The following subjects will be discussed: caisson disease in joints; surgery of varicose veins; benign hypertrophy of the prostate.

At the annual meeting of the Westminster Hospital Ladies' Association to be held in the Queen Mary Nurses' Home (entrance in Page Street) on Thursday, May 11, at 3 p.m., Mr. E. Rock Carling, F.R.C.S., will speak on "Journey to Moscow."

The Minister of Health has augmented the Ministry's staff responsible for visiting and advising hospitals on the best methods of preparing, cooking, and serving meals to patients and staff by the appointment of two women dietitians, Miss H. G. Cairney, M.B.E., and Miss M. R. Muriel. Miss Cairney, who holds a Dietetic Diploma, was from the outbreak of war until her present appointment sister-in-charge at the L.C.C. diabetic unit at Hutton School, Brentwood. Miss Muriel was previously with the Ministry of Food; part of her work was to report on hospital feeding, and she carried out surveys at several large hospitals. Since the setting up of the Emergency Hospital Scheme the Ministry of Health has been responsible for the treatment and care of large numbers of hospital patients. To assist in dealing with catering problems, it appointed Capt. J. Fraser, an expert in catering and kitchen equipment, soon after the war started. He has visited over 300 hospitals, and, wherever necessary, has made suggestions for improving the standard and quality of meals. Medical officers specializing in nutrition questions have also inspected emergency hospitals in many parts of the country. The advisory services of this special staff will be available to all types of hospitals—municipal and voluntary, as well as fever hospitals and tuberculosis sanatoria. So far as possible they will cover the whole field of hospital catering—purchase of foodstuffs, choice of menus and diets, and the preparation, cooking, and serving of meals. In 1942 the Ministry issued for the guidance of hospital catering staffs a booklet called *Wartime Feeding in Hospitals*

containing specimen diets and menus. The King Edward Hospital Fund recently appointed an advisory dietitian to assist voluntary hospitals in Greater London on dietary questions. Arrangements have been made to co-ordinate the work so that the Ministry's advisory service does not overlap with the activities of the Fund.

The preliminary programme for the seventy-fifth annual meeting of the Canadian Medical Association, to be held in Toronto from May 22 to 26, is published in the March number of the *C.M.A. Journal*. The president-elect is Dr. Harris McPhedran. A series of round-table conferences has been arranged for two of the mornings, followed by sessional meetings in the afternoons. At the first of the general sessions the outgoing president, Dr. D. Sclater Lewis, of Montreal, will give his valedictory address, and the last general session will be devoted to a discussion on health insurance and allied problems.

The council of Epsom College will shortly proceed to award St. Anne's scholarships to girls attending Church of England schools. Candidates must be fully 9 and under 16 years of age, and must be orphan daughters of medical men who have been in independent practice in England or Wales for not less than five years. The value of each scholarship is dependent upon the means of the applicant and the locality and fees of the school selected. Forms of application can be had from the secretary's office, Epsom College, Surrey, and must be sent in by May 12.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* during the week the incidence of infectious diseases fell sharply. The decreases over the previous week in the notifications for the following diseases were: whooping-cough 583, scarlet fever 361, measles 300, acute pneumonia 274, diphtheria 170, dysentery 59.

The lowered incidence was general throughout the country. For scarlet fever London reported 54 cases fewer than last week, Yorks West Riding 43 fewer, and Lancashire 38 fewer; for diphtheria Yorks West Riding and Lancashire reported 34 and 25 fewer cases respectively; for whooping-cough Lancashire's notifications fell by 74, those for Yorks West Riding by 60, and those for Essex by 62. The fall in measles was mainly in the north; in the south the incidence went up slightly; Lancashire reported 131 fewer cases than last week, Essex 81, and Durham 55.

The only fresh outbreak of dysentery during the week was in Suffolk, Deben R.D., 16. The largest returns were those of London 48, Surrey 37, Lancashire 36, Cheshire 20.

In *Scotland* notifications of measles were 167 fewer than last week, diphtheria 50, scarlet fever 48, acute pneumonia 39, whooping-cough 27, and cerebrospinal fever 21. The incidence of dysentery rose by 17 cases, the chief centres of infection being Lanark County 30, Dundee 14, Edinburgh 13, Dumfries County 13.

In *Eire* measles notifications were 100 fewer than last week, whooping-cough 64, and diphtheria 17. 11 cases of typhoid were reported from Tipperary, Roscrea No. 1 R.D.

In *Northern Ireland* the notifications of diphtheria rose from 30 to 45: 15 of the cases were notified in Londonderry C.B.

Quarterly Returns for England and Wales

The returns of the Registrar-General for the December quarter of 1943 show that the birth rate at 15.4 per 1,000 was the highest for a fourth quarter since 1930, the average for the five preceding December quarters being 13.6. Infant mortality was 51 per 1,000 live births, 3 below the average of the ten preceding fourth quarters. The general death rate was 14.6 per 1,000, this rate being 3.6 above that for the corresponding quarter of 1942 and 2.5 above the five-year average. The decline from the high marriage rate during the first war years continued, and the rate—13.3 per 1,000—was the lowest ever recorded during the fourth quarter.

Returns for the Year.—The provisional returns for the year are included in the returns. The birth rate was 16.5 per 1,000, and was the lowest rate ever recorded, being 2 below that of 1942, the previous lowest. The general death rate was 12.1 per 1,000, and was 0.5 above that for 1942 but 0.8 below that for 1941. The marriage rate was 14.3 per 1,000, the lowest recorded since 1926.

Week Ending April 15

The returns of the notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,870, whooping-cough 1,865, diphtheria 616, measles 2,578, acute pneumonia 983, cerebrospinal fever 96, dysentery 179, smallpox 1, paratyphoid 2, typhoid 5.

No. 14

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended April 8.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1944					1943 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	78	5	17	3	5	92	4	36	7	11
Deaths		2	1				—	—		
Diphtheria	554	38	151	102	45	729	49	185	89	33
Deaths	13	2	2	1	—	13	—	1	5	1
Dysentery	250	48	120	—	—	116	11	29	—	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	4	—	—	—	—	1	—	—	—	—
Deaths		—					—			
Erysipelas			45	7	1		—	47	4	1
Deaths		—								
Infective enteritis or diarrhoea under 2 years				4					16	
Deaths	59	15	16	9	1	58	11	7	17	4
Measles	2,343	324	269	306	10	18,056	1,059	792	38	317
Deaths	2	—	1	7	—	21	2	4	—	1
Ophthalmia neonatorum	92	6	14	—	—	74	3	25	1	1
Deaths										
Paratyphoid fever	2	1	—	—		3	—	2	—	—
Deaths	—	—	—		—	—	—	—	—	—
Pneumonia, influenzal*	1,003	63	8	7	6	1,290	90	15	10	15
Deaths (from influenza)	21	1	3	1	—	62	4	1	—	—
Pneumonia, primary			227	23				244	23	
Deaths		51		20	7		60		6	16
Polio-encephalitis, acute	2	—				2	—			
Deaths		—					—			
Poliomyelitis, acute	2	—	2	—	—	4	—	2	2	—
Deaths		—					—			
Puerperal fever		2	11		—		2	26		—
Deaths										
Puerperal pyrexia†	140	7	9	1	—	173	7	21	2	1
Deaths		—					—			
Relapsing fever	—	—			—	—	—			—
Deaths										
Scarlet fever	2,089	111	195	22	75	1,993	209	268	41	58
Deaths	3	1	1	—	—	2	1	—	—	—
Smallpox	1	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	9	3	—	13	—	6	—	1	5	5
Deaths	1	—	—	—	—	1	1	—	1	—
Typhus fever	—	—	—	—	—	—	—	—	3	—
Deaths				—	—				—	—
Whooping-cough	1,558	204	89	24	15	1,954	168	268	23	18
Deaths	12	2	1	6	1	19	5	4	3	—
Deaths (0–1 year)	413	62	71	44	15	419	45	71	49	32
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	4,799	748	569	244	164	4,772	634	644	241	158
Annual death rate (per 1,000 persons living)			13·1	15·9	‡			14·5	15·8	‡
Live births	6,946	870	900	358	293	6,596	782	992	440	311
Annual rate per 1,000 persons living			18·3	23·4	‡			20·2	28·9	‡
Stillbirths	198	28	40			236	23	39		
Rate per 1,000 total births (including stillborn)			43					38		

* Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

† Includes puerperal fever for England and Wales and Eire.

‡ Owing to evacuation schemes and other movements of population, birth and death rates for Northern Ireland are no longer available.

Letters, Notes, and Answers

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Aitiology Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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ANY QUESTIONS?

Fluid Intake and Toxaemia of Pregnancy

Q.—*Patients who suffer from toxaemia of pregnancy are often advised to increase their fluid intake and to eliminate protein from the diet. Water retention plays an important part in the causation of peripheral oedema and of eclampsia (oedema of the brain). The level of plasma proteins is depressed. Would it therefore not be wiser to keep the fluid intake at a low level and not to restrict the protein content in the diet?*

A.—There is much evidence in favour of the view that water retention plays an important part in the causation of eclampsia. There is, however, no general agreement regarding the cause of this retention, or as to whether the plasma proteins are lowered in eclampsia. It would seem advisable to limit fluid intake in pregnancy rather than increase it, as has been generally advised in the past, and many obstetricians now favour this course. It seems reasonable, too, in view of the fact that in established pre-eclamptic toxaemia with oedema, fluid and salt restriction is usual, in addition to rest to reduce the blood pressure. It is doubtful, too, whether protein restriction is beneficial in established toxaemias, especially in view of recent work on the part played by certain proteins and amino-acids derived from them in protecting the liver against necrotic changes.

Osteo-arthritis of Hip

Q.—*Is there any form of treatment with which there is a reasonable hope of success in relieving osteo-arthritis of the hip—especially the pain of this complaint? Is gold treatment of any value? I see it is recommended for rheumatoid arthritis.*

A.—Without a good deal more information, including *x*-ray evidence, this question cannot be answered satisfactorily. In some cases a calliper splint to put the joint at rest by separating the articular surfaces is desirable; in others, especially with severe pain, arthrodesis may be indicated. Good results have been obtained by injecting novocain saline in the vicinity of the joint, and lipiodol (now unobtainable, but similar preparations can be had) has been used with success; a certain amount of care and skill is required for a good result with this method. Apart from these methods ultra-short-wave diathermy sometimes gives relief but not always, and the same applies to deep *x* rays; either requires to be administered by someone with expert knowledge of the method. The usual analgesics may be employed, remembering always the danger of habit formation with many drugs of this kind in such a chronic condition. Gold treatment is absolutely useless in osteo-arthritis.

Sawdust and Lung Disease

Q.—*The manager of the export department of a firm of manufacturing pharmaceutical chemists tells me that an abnormally large number of men in the packing section of his department suffer from bronchial disorders, and that the men attribute this high incidence to the sawdust used in the packing. This dust is stamped down in the process of packing, and much of it flies about in the air surrounding the packers. Three cases lately mentioned by the manager as occurring among these packers were of bronchitis, asthma, and neoplasm of bronchus respectively. The "British Encyclopaedia of Medical Practice" says that sawdust is one of the dusts whose liability to produce pneumoconiosis is unproved. Can you give any opinion about the desirability and the best, preferably unobtrusive, methods of preventing inhalation of the sawdust?*

A.—Wood dust, when inhaled, irritates the upper respiratory passages, and the incidence of bronchitis among workers engaged in woodworking occupations which expose them to dust is somewhat in excess of the average. There is no evidence that pneumoconiosis or neoplasm of the bronchus is caused directly by wood dust. With sawdust of the soft woods, which are those likely to be used for packing bottles, the action on the respiratory passages is a physical one, producing irritation by the rough surfaces of the particles, and symptoms of chronic irritation and inflammation of the pharynx, larynx, trachea, and upper bronchi may be caused in susceptible persons. Dust of hard woods, such as beech, mahogany, and box-wood, is usually of smaller particle sizes and the deeper bronchi may be affected. Certain woods, such as teak, are well known to cause severe symptoms in persons specially susceptible to them, but these woods are unlikely to be used as packing material. The possible presence of mould fungi in the wood may be kept in mind as a source of pulmonary trouble if sawdust from unsound wood or old packing material which has been allowed to become damp is used. Apart from the provision of localized exhaust draught to remove the finer dust in the process of handling, which is probably impracticable in the circumstances, the wearing of a simple type of respirator would give a considerable measure of protection from the comparatively coarse dust. A suitable respirator could be constructed of a light wire frame with a few layers of gauze and worn over the nose and mouth; such respirators are available on the market.

Units of Penicillin

Q.—*What are the units in use in the dosage of penicillin? American writers talk about doses of 25,000 units, and, in a course of treatment for early syphilis, a total of 1,200,000 units. Are these units the same as the "Oxford units"?*

A.—Yes. The U.S.A. has adopted the Oxford unit, and a standard preparation of penicillin provided from Oxford has been used for the assay of their products. This unit is a quantity which cannot accurately be defined in terms of biological effect; as in the case of so many other therapeutic agents which also cannot be weighed or otherwise measured, it can be expressed only as the activity contained in a given weight of a standard. While penicillin production is controlled as it is at present, the unit will remain a reasonably constant quantity, and doses as stated in the present American and English literature can be taken to mean the same thing.

Sulphonamides and Fluid Intake

Q.—*In the Medical Research Council War Memorandum No. 10, "Medical Use of Sulphonamides," pp. 40–1 (prevention and treatment of anuria, haematuria, etc.), it is advised to give about 5 pints of fluid in 24 hours to an adult to maintain a large urinary output, 2½ pints in 24 hours, and to perform cystoscopy if urinary output of 17 oz. persists for 24 hours; and on p. 14 it is advised to give sod. cit. gr. 20 and sod. bicarb. gr. 20 with the tablets. In the case of children, should the fluid intake, urinary output, and indication for cystoscopy and dosage of alkali given be calculated according to age of child and "quantity of urine passed by children daily" according to the table ("Clinical Methods," Hutchison and Rainey, pp. 319 and 320) thus:*

	Optimum Fluid Intake	Optimum Urinary Output	Dangerous Urinary Output	Dose of Alkali
If for adult	100 oz.	50 oz.	17 oz.	Sod. bic., sod. cit., āā gr. 20
These ? for child :				
Aged 2 years ..	20 oz.	? 10 oz.	? 3 oz.	? Sod. bic., sod. cit., āā gr. 3
Aged 4 years ..	26 oz.	? 13 oz.	? 4½ oz.	? Sod. bic., sod. cit., āā gr. 5
Aged 8 years ..	40 oz.	? 20 oz.	? 7 oz.	? Sod. bic., sod. cit., āā gr. 8.

Are the amounts I have marked "?" the correct amounts to maintain to avoid toxic urinary reactions with sulphonamide treatment, particularly with sulphathiazole?

A.—This question omits one essential factor which cannot be left out of account if it is desired to reduce the matter to absolute figures. This is the dosage of the drug. Granting, as stated in the authority quoted, that a full adult daily dose—say 6 g.—of the drug can be kept in solution in spite of acetylation provided that the daily output of urine be not less than 50 oz., then half that dose of the drug will call for a daily output of 25 oz. What matters, in fact, is the concentration of the drug in the urine. The dosage of alkali suggested appears satisfactory: the figure for "dangerous urinary output" may be calculated from the optimum, as has been done in the question.

Pituitrin for Herpes Zoster

Q.—*The severe pain of herpes zoster (in my experience of two cases) is relieved in less than an hour by a hypodermic injection of pituitrin, but in neither case was the later and severe after-pain relieved. How does the pituitrin act? How was its action discovered? Is there any satisfactory remedy for the after-pain in these cases? I have heard of other cases relieved in the same way, but have personal experience only of two.*

A.—The pituitary (posterior lobe) extract acts by lessening exudation from the skin capillaries, and so diminishing the tension which is the cause of the pain. Its action in diminishing exudation and

oedema, such as follows the application of mustard oil to the conjunctiva, or the subcutaneous injection of paraphenylendiamine, was demonstrated by L. T. Poulsson (*Arch. exp. Pathol. Pharmakol.*, 1927, **120**, 120). The after-pain can be dealt with only by the usual analgesics such as aspirin, pethidine, or morphine.

Miners' Nystagmus

Q.—*It is widely accepted that the illumination provided at the coal-face in coal mines with the hand-lamps at present in use is not sufficient to maintain foveal vision throughout the "shift"; and that this is the chief aetiological factor in the production of miners' nystagmus. In an annotation in the "B.M.J." of March 4, 1944, it is stated that "foveal vision could be called into play in low intensities of illumination only if the light used were red in colour." If the coal face reflected, and pit dust absorbed, red light equally with white light, am I right in assuming that advantage might result from altering the present candle-power hand lamps from white to red light?*

A.—It is possible that red light might be advantageous in the pit, though the coal face is not by any means identical with a luminous body of low intensity. What is more problematic is the role of foveal vision in mining, which is hardly "fine work" in the ophthalmic sense. Investigations during the past 20 years have tended to emphasize the psychological nature of miners' nystagmus, and little importance is now attached to low illumination as an aetiological factor.

INCOME TAX

Expenses

E. V. asks what claims for professional expenses are recognized by the income tax authorities.

*** It is not possible to give a complete list here. In general the expenses that can be set against the gross receipts of a practice are those which can reasonably be said to be incurred in the carrying on of the practice and not for the benefit of the practitioner—e.g., cost of instruments and drugs. The practical difficulty is that a large proportion of expenses serve both purposes and have to be divided—e.g., rent and rates, cost of servants, telephone, car, etc. There is no clear guide to such a division; reason and common sense applied to the actual facts usually indicate the line fairly well. Expenses to be deducted by an assistant from salary are restricted by the requirement that they shall be *necessarily* incurred in the course of the employment; this renders ineligible professional subscriptions (unless membership of the Association is a condition of the employment) and the cost of travel between home and the place of work.

Annuity Payable by Insurance Company

A. P. wishes to know his position in respect of an annuity starting with a guaranteed period of 8½ years whether he lives or dies.

*** If there is a single contract providing for a fixed payment for 8½ years followed by an annuity terminating at death, the position is, in our opinion, at least doubtful. But a contract for a fixed period would apparently carry income-tax liability only as regards the element of interest in the payments made. Possibly what is contemplated is two separate contracts—one for a fixed term and another for life coming into operation as at the end of that period. A difficult question of law is involved, and the insurance company might be asked if they can guarantee their opinion.

Wife takes over Husband's Practice

M. M. has been in panel practice for many years, and following on the death of her husband has taken over his practice and added it to her own. Is this to be regarded as a new practice so far as M. M. is concerned?

*** Yes. M. M.'s liability will be based on (*a*) the profits of her old practice for the previous year plus (*b*) the profits of the husband's practice on the current year's basis, until she has held it long enough for the previous year's basis to operate for both.

Appointments: Travelling Expenses

"EPSILON" is employed by the E.M.S. as a full-time physician, but holds two honorary appointments in addition. He has to travel to the hospitals concerned, but has been refused a deduction for the cost of maintaining a car for the travelling.

*** This is legally correct. Where several appointments are held, the emoluments being assessed under Schedule E, the expense of travelling to the place where the duties are performed has been held by the courts *not* to be "incurred wholly, exclusively, and necessarily in the performance of the duties of the office."

Correction

The reply to "J. F." published on Feb. 19 as the first item on page 278 contained a clerical error: the figure at the end should be £30, not £50.

LETTERS, NOTES, ETC.

Strychnine and Field of Vision

Mr. H. M. TRAQUAIR, F.R.C.S.Ed. (Edinburgh), writes: On page 207 of the *Journal* of Feb. 5 it is stated that strychnine "causes a measurable increase in the field of vision." This statement appears in textbooks of pharmacology, but is based not on recent research but on observations dating from the work of von Hippel in 1873, followed by others. The evidence is contradictory and inconsistent, and one writer at least was entirely sceptical; certainly some of it is completely incredible. Is not this an example of the repetition of statements without proper scrutiny or criticism? It is difficult to believe that any drug can "increase" the field of vision in whatever sense the word "increase" may be used.

High Birth Weights

Dr. FRANK CROSBIE (Ealing) writes: The expert who dealt with this question (April 8, p. 510) might be interested to know that on Dec. 10, 1927, my wife gave birth to male twins. G. weighed 7 lb. 6 oz., A. weighed 8 lb. 4 oz., a combined weight of 5 oz. more than the case to which he refers. Both are now Dartmouth cadets, G. weighing 11 st. 2 lb., height 5 ft. 9¼ in., A. 9 st. 10½ lb., 5 ft. 8½ in.

Excessive Sweating

Dr. A. J. AMBROSE (Paignton, Devon) writes: Your answers in the "Any Questions?" section (March 18, p. 412) on excessive local sweating will not satisfy many dermatologists nor the R.A.F. officer who is the victim of this distressing complaint. Like the Frenchman who, when asked on a cross-channel steamer if he had lunched—I would say, "Au contraire" to your advice to avoid *x* rays. Roxburgh in *Common Skin Diseases* says that no local treatment can cure, and that the usual practice is to give 3/4 pastille dose once a month until the condition is nearly cured, stopping short of cure so as to avoid the danger of producing too dry a skin. I agree with you that this great danger must be avoided, and it will be avoided if the work is carried out by an expert radiologist, especially if he is a dermatologist as well. If, however, the R.A.F. officer is nervous of trying 3/4 pastille dose, then he might get a good result with 1/4 pastille dose at weekly intervals. In addition to the excellent suggestion of bathing with hot water, R.A.F. might like to try acid. salicyl. gr. 10, pulv. alum. 1/2 oz., pulv. amyl, 1/2 oz.; or acid. salicyl. 3%, acid. boric, 10%, French chalk ad 100%; or alum gr. 48, liq. formaldehyd. ♏ 24, lanette wax gr. 33½, ung. acid boric gr. 142½, ung. zinc. ox. gr. 234. Light open-wove underclothing—and he should be advised not to take drugs such as atropine, or belladonna internally, as these are useless.

Conditions in Detention Barracks

Dr. F. ALLEN writes from Poona: I have often wondered why prison and detention barracks, etc., in the British Isles do not follow the Indian example of having medical superintendents or governors or wardens or whatever name sounds best. I have been a jail superintendent and also jail M.O. for a combined period of nearly 10 years with breaks. The medical superintendent can so easily spot the men who are ill and is in a better position to deal with the malingerers. I endeavoured always to admit a man or woman to hospital before he or she fell ill. I could vary the jail or individual diets to suit the case. I was working on my health statistics, but recall to military duty spoilt the sequence. I am all for a medical superintendent in the interests of humanity and of the prisoners, and I believe it is also to the benefit of the State.

Breathing Exercises

Dr. L. SHELDON (Harlesden, N.W.10) writes: Some years ago, while acting as first assistant to Mr. Radcliffe (late surgeon E.N.T. Dept., Queen's Hospital for Children, Hackney) I noted that numerous children who had had their tonsils and adenoids removed still breathed badly—they were, in fact, still bad mouth-breathers. I suggested that these youngsters be taught to breathe correctly and that a skilled teacher be appointed with this object in view. Mr. Radcliffe agreed. I note now that most hospitals have skilled teachers who are doing excellent work in this field. Many mothers have, however, complained to me of the time wasted in travelling to hospital, so I venture to suggest that this work be undertaken at schools. The "war effort" would thus be helped (mothers have to have time off from work) and no schooling would be lost to the children.

Detecting Trichomonas vaginalis

Dr. R. E. REWELL (Coulsdon, Surrey) writes: Under the heading of "Any Questions?" on April 8 I see you state that the *Trichomonas vaginalis* "can be detected by examination of a fresh specimen with a dark-ground microscope." This phrase seems to me to be unfortunate, as those inexperienced in the examination of discharges for

the presence of this organism may be led to suppose that the elaborate set-up for producing *dark-ground illumination* (as in the search for *Treponema pallidum*) is required. In fact, all that is required is that the condenser of the microscope be racked well down so as to produce a darkened background, just as is done during the enumeration of blood cells. A wet preparation of the *fresh* material is made, warmed for a few moments, and then examined with the ordinary 2/3-in. and 1/6-in. objectives. The organisms, with their pear-shaped bodies, anterior flagellae, and lateral undulating membranes, are easily seen among the immobile pus and epithelial cells of the vaginal discharge. I have no experience of searching for them in the male, but feel that they could be readily distinguished from spermatozoa by the most inexperienced. No other organism resembling them is likely to be found in the vagina or urethra. I feel that your phrase should be modified, as otherwise specimens may be sent long distances to laboratories equipped with dark-ground apparatus instead of being examined in the consulting-room, a thing anyone can do who still retains the microscope of his student days. The *Trichomonas vaginalis* is sure to die *in transit*, and then the examination is wasted.

Coincident Inflammation of the Hip-joint in Two Children

Dr. C. LL. LANDER (Maiden Newton, Dorset) writes: Two children, a girl of 5 and a boy of 3½, went to a tea-party in the village where they live at which a considerable number of children were present. Three weeks later they were seized with symptoms pointing strongly to acute inflammation of the hip-joint (infective osteomyelitis). First, the girl, who complained of pain in the left knee. She had a temperature of 103°, and lay with the thigh abducted and semiflexed. Any movement was excessively painful, the whole pelvis moving with the thigh *en bloc* when movement of the joint was attempted. Two days later the boy presented similar symptoms except that there was no pain referred to the knee. I treated both with sulphanilamide 0.25 g. tablets. The girl, owing to inefficient nursing, took only one tablet and parts of two others on the first day, but was decidedly improved thereby; six more tablets on the second day relieved the symptoms entirely; a further dose of four tablets was given on the third day. The boy had six tablets on the first day, followed by four on the second and third days. All pain and fixation of the joint had by then disappeared, and it was difficult to keep the child in bed any longer. In fact the parents gave me a broad hint that further attendance from me was hardly called for. These cases are unique in my experience, first, because of the apparently common source of infection and, secondly, on account of the dramatic way in which the symptoms completely disappeared.

Two Suggestions in Clinical Examination

Mr. K. WILSON JAMES, F.R.C.S.Ed., sends the following notes from Kingston, Jamaica: (1) *A Percussion Test in Acute Lower Abdominal Conditions.*—As an aid in the differential diagnosis of lower abdominal conditions this simple test is sometimes very useful. It consists in lightly percussing over certain areas and asking the patient to state the point of maximum pain. For example, the left hand is placed on the lower abdomen with the index and middle fingers separated to form a V. The tip of the index finger is made to rest over the internal inguinal ring and that of the middle finger over McBurney's point. On percussing, the site of maximum pain in acute adnexal conditions will be found to be over the internal ring, whereas it will usually be in the region of McBurney's point in acute appendicitis. (2) *A Three-finger Examination in Obscure Pelvic Cases.*—With the patient in left lateral, Sym's, or dorsal position as may be found most suitable, the index and middle fingers are introduced into the vagina and the lubricated ring finger into the rectum. The thumb then rests upon the pubis and the little finger upon the perineum. Thus the whole hand assumes a natural position, and an extremely thorough bimanual examination of the pelvis is possible with the aid of the other hand. There is the feeling as if the whole hand is inside the pelvis, and this manœuvre is worth trying in difficult pelvic examinations and in obscure cases.

Swallowed Plastic Button undetected by X Rays

Dr. J. A. STEPHENS (Kirkburton) writes: On Nov. 29, 1943, a rather worried mother brought her baby, aged 7 months, to see me on account of the following circumstances. That morning on going to look at the child in his pram in the garden she noticed that the second button of his woollen cardigan was missing. She had noticed the child sucking this particular button, which was attached by wool, on a few occasions. She hunted high and low for the missing button but failed to find it, and assumed that the child had swallowed it. Three similar buttons were still attached to the coat. They were made of some smooth plastic material 5/8 in. in diameter and about 1/8 in. thick. I advised the mother to watch and examine the child's stools carefully for the next few days. By Dec. 3 the button had not been found, and so I sent the child for *x*-ray examination, instructing the mother to take the coat as the radiologist would wish to test the opacity of the buttons. When, with this object in view, the coat was shown to the radiographer, no interest was aroused. The report to the mother by the doctor who examined the radiograph was that the child had not swallowed the button, but he gave instructions that if the child had any vomiting, diarrhoea, or signs of pain he should be taken back immediately. I received no report and decided on a "wait-and-see" attitude. Late on the night of Dec. 8 I was called to see the child, who had waked up crying and vomiting some hours after being put to bed. On examination no abnormal signs were found, and next morning the child was quite fit again. I heard no more of him until Dec. 31, when the mother told me that during the morning when she removed the child's soiled napkin she found the missing button in his stool, the holes in the button being well filled with faeces. It is interesting to note that the button took 32 days to traverse the intestinal tract, that apart from the occasion mentioned there were no abnormal signs, and that owing to the composition of the button the *x*-ray examination and report were valueless.

Dermatitis after Local Sulphonamides

Dr. J. SEEGOBIN writes from the island of Rodriguez: The memorandum on dermatitis after local sulphanilamide treatment (April 3, 1943, p. 144) by Flight Lieut. Ian MacGregor is interesting. May I add my observation to it. A girl of 16 sustained a fall and her foot was bruised in the inner part of her left ankle by the kerb of a cemented footpath. After a few days the bruised tissue sloughed off, leaving a tropical ulcer of about 1½ in. diameter. In spite of various local treatments for six months there was no improvement, and I then decided to apply powdered sulphapyridine. The wound did well, but after two weeks' application of 1 tablet of 1/2 g. daily, the region below got irritated and took the form of a large weeping eczema, which was easily amenable to lotio plumbi and lin. calaminae. Fortunately the incident happened at the terminal stage of the ulcer, and the suspension of sulphapyridine did not affect its healing.

Herpes and Varicella

Dr. TH. JAMES writes from Induna, Southern Rhodesia: To comment on Dr. R. J. Gourlay's letter (Dec. 4, 1943, p. 736) about his case of chicken-pox following contact with shingles, surely it can be said to be quite an established fact that these two conditions are closely but yet inexplicably associated, and in circumscribed communities like those on air stations and in camps it is always a wise measure when a case of shingles occurs to look among the contacts for cases of early chicken-pox. If the cumulative evidence of numbers is required I can add two more. One of these cases showed the association very clearly. An airman developed some vesicles on his left chest and did not report sick but had a friend who applied a dressing of sorts, daily for several days, after which time, however, he did report sick with a typical shingles eruption. His friend who had done the dressings reported sick with chicken-pox about ten days later.

Non-Combatant Officers

Wing-Cmdr. H. M. STANLEY TURNER writes: The current number of the *Journal of the Royal United Services Institution* contains an article on "The Dress of the British Army," by Major R. J. H. de Brett of the West Yorks Regiment, containing some interesting observations on the status of non-combatant officers—a class to which medical officers of all three Services belong. He says: "At present in the British Army, if an officer is to be given status in order that he may give orders and command respect, he has to be given the King's Commission, though he may not possess the technical qualifications which every holder of that Commission should possess." He continued: "A distinction between combatant and non-combatant officers is long overdue. Non-combatant officers should be given similar status to war correspondents and wear a uniform which clearly shows that they do not hold the King's Commission." Obviously if an individual does not hold the King's Commission he is not an officer, either combatant or non-combatant. What exactly the "technical qualifications" are which *every* holder of a Commission should possess the author unfortunately does not specify; nor does he enlighten us as to why medical officers should be given the status of war correspondents, even though they may be given the King's Commission to "command respect" if they have to "give orders," for they certainly fall within his definition of non-combatants.

Disclaimer

Squad. Ldr. G. WILLOUGHBY CASHELL, R.A.F., writes: The publicity in the lay press given to a recent communication of mine in the *British Medical Journal* was without my knowledge or consent.

Correction

In the *Journal* of April 15 (p. 546) under the heading "Trichomonas vaginalis," the first word of the second paragraph of the answer to the question should read "Liston," and not "Lister." The reference is *Brit. J. vener. Dis.*, 1940, **16**, 34.